Journal of Scientific Research in Medical and Biological Sciences
Website:http://bcsdjournals.com/index.php/jsrmbs
ISSN 2709-0159 (Print) and 2709-1511 (Online)
Vol.2, Issue 2, 2021
DOI: https://doi.org/10.47631/jsrmbs.v2i2.238

The Role of Wild Food Plants of Himachal Pradesh in Boosting Immunity to Combat COVID-19

Tara Devi Sen

Assistant Professor. Department of Botany, Sardar Vallabhbhai Patel, Cluster University, Mandi, Himachal Pradesh, India.

Article Info

Article history:
Received:10 March 2021
Revised: 17 May 2021
Accepted:22 May 2021

Keywords:
Wild food plants,
COVID-19,
Tonic,
Immunity booster,
Food supplement.

Paper Type :

Research Article

Correspondence Author:

Tara Devi

Email:
stara1982@gmail.com

Abstract

Purpose: *The study aimed to document wild food plants usefulness in boosting immunity, fighting COVID-19 and other related viruses. The study also examined the diversity, distribution, parts used and season of availability of wild food plants that can be useful in boosting immunity to fight COVID-19.*

Subjects and Methods: *The study was conducted in Himachal Pradesh (30^0 22' 40" to 33^0 12' 40" N Latitudes and 75^0 45' 55" to 79^0 04' 20" E Longitudes) northwest Himalaya from March 2020 to April 2021 by survey, sampling and interviewing knowledgeable persons through a questionnaire for the plants which are traditionally used as tonic and medicine to cure cough, cold and fever. Plants rich in antioxidant, Vitamin A,C and Zn were documented for their potential to boost immunity.*

Results: *Ninety-five wild edible plants have been documented in this study belonging to forty families and seventy-seven genera. Family Asteraceae is found dominant, represented by 8 species followed by Lamiaceae (7 sp), Rutaceae and Brassicaceae (represented by 6 species each). Among genus, Ficus is found dominant represented by 4 species followed by Amaranthus, Oxalis, Rumex and Citrus (represented by 3 species each). These plants have been documented based on their medicinal and nutritive value like the richness in antioxidants, their ability to act as a body cleanser, cure common cold, cough and fever (Symptom similar to COVID-19) as revealed by a discussion with locals and literature reviews. These plants can be incorporated in our day-to-day life as a food, flavoring agent, or food supplement to boost immunity, fight COVID-19 or future challenges like COVID-19. Traditional knowledge of using these plants is on a sharp decline and their acceptability as a medicinal herb, food plants, or food supplement is the need of the hour to combat present and future challenges of pandemic COVID-19.*

Conclusion: *Revitalization of our traditional health care and herbal healing with the use of nutritionally important medicinal wild food plants will be helpful to boost immunity and face ongoing and future challenges of pollution, stress, depression and pandemic like COVID-19. This can be done by addition of documented plants as food and food supplement with some modern twist in our food plate.*

1. Introduction

Himalayan forests are the unique treasures of bio resources that act as an important source of medicinal and edible plants for the local communities (Bhat et al., 2013). People have been using these plants as food, fibers, oil, dyes, timbers, fuel, fodders, medicine and materials from time immemorial. Some of these plants also act as an important source of food at the time of scarcity and their use offers many advantages over commercial food plants.

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS),
Under the license CC BY- 4.0

They give variety to our food plate and are a free source of nutrients for local people. They are relatively hardier, more resistant to diseases, insects and pests. Since they are free from harmful chemical fertilizers, insecticides and pesticides, they play an important role in boosting our immune system. In most cases, these are plants are multipurpose types, offering many other uses except food. People consume these food items as wild vegetables, wild fruits and food supplements in a variety of ways like raw, roasted, fried, cooked, boiled or in the form of oil, spice, seasoning material, jams, pickle, etc.

Local people have been eating food items prepared from these plants science ages but unfortunately, lost track somewhere at the dawn of modern times. The indigenous knowledge and practices of using these plants revolve around traditional practices and values of resource use that include subsistence, socio-cultural and economic-commercial values (Samant & Dhar, 1997; Thakur, 2021).

Himachal Pradesh is endowed with rich floristic diversity and the population in this region is small due to hilly geography. Hence, people cannot afford optimum agricultural input and rely on a number of unconventional food plants like *Achyranthes aspera*, *Cirsium arvense*, *Eclipta prostrata*,*Tinospora cordifolia*,*Centella asiatica*, *Euphorbia hirta*, *Taraxacum officinale* and *Urtica dioica*, etc., for food, fiber, medicine and materials (Samant & Dhar,1997; Devi T, 2020). Wild food plants like *Euphorbia hirta, Moringa oleifera, Taraxacum officinale, Tinospora cordifolia Centella asiatica*, and *Urtica dioica* are excellent immunity booster which can be employed as a food and food supplement in our day to day life. (Thakur, 2021) Himachal Pradesh is a well-known tourist destination during all seasons. Therefore, food preparation from these medicinal herbs can also be entered in the menu of different restaurants, hotels, private hotels, resorts, local restaurants &*Dhabas* running across HP and adjoining states to boost immunity and avoid COVID-19 and other future challenges **(**Devi&Sen, 2020).

Hence, the study aims to explore the indigenous knowledge, medicinal and nutritive value of wild food plants useful in boosting immunity, fight COVID-19 and future challenges like COVID-19. In addition, the study examines the traditional methods of involving these plants in our day-to-day life and latest methods of their use as a food and food supplement with modern twist.

2. Methodology and Procedures

The study is based on both primary and secondary data. Survey and sampling were done from June, 2020 to March, 2021. Rapid survey and sampling were done and information on wild food plants helpful in boosting immunity, their altitudinal range, habit, habitat (s), method of extraction, availability and utilization pattern was gathered by interviewing knowledgeable persons through a questionnaire. Identification of samples was done with the help of local and regional floras (Chowdhary & Wadhwa, 1984: Collett, 1902, Dhaliwal& Sharma, 1999; Singh, 1918). Plants rich in antioxidants, vitamin A &C, minerals like Mg, Zn, and traditionally used as tonic and medicine to cure cough, cold and fever were documented for their potential to boost immunity, fight COVID-19 and future challenges like COVID-19.

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS),
Under the license CC BY- 4.0

Study Area:

The study was conducted in Himachal Pradesh (30^0 22' 40" to 33^0 12' 40" N Latitudes and 75^0 45' 55" to 79^0 04' 20" E Longitudes) northwest Himalaya. The altitudinal Range of Himachal Pradesh is 350- 6816 m and the temperature lies between -13.8^0 C to 44.7^0 C. It covers approximately55, 673 Km^2 areas, and comprises 3226 Panchayats, 20, 690 villages with 14, 83, 280 households and 6,864,602 human populations. The total livestock population is 11, 04, 476. It supports diverse habitats, species, communities and Ecosystems. The vegetation mainly of sub-tropical and temperate types and mostly dominated by broad-leaved deciduous and evergreen and coniferous types. (District Economic and Statistical Department, Mandi, H.P).

Fig. 1.Google Map of HP

Table 1: List of informants, members of SHG and buyers associated with nettle traditional use, processing and marketing

Sr. No.	Name	Age	Gender	Address	Profession
1.	Yougraj Dogra	28	M	VII.- Ghat, PO- Ghat,Teh.-Balichowki, Distt.-Mandi.	Agriculture
2	Sunitra Sen	64	F	Vil-Talyahar. PO-Talyahar-Teh-Sadar Distt.-Mandi.	President of 150 SHG
3.	Jaithi Devi	72	F	VII.- Ghat, PO- Ghat,Teh.-Balichowki, Distt.-Mandi.	Farming
4.	Bhop Singh	70	M	VILBaga, PO- Bagachanogi, Teh.-Thunag, Distt.-Mandi.	Agriculture
5.	Rajender prakash attri	56	M	VIL- Lashan, PO- Jabli, Teh.-Kasauli, Distt.-Solan.	Agriculture
6	Poonam attri	40	F	VIL Lashan, PO-Jabli Teh.-Kasauli, Distt. Solan.	Agriculture
7.	Kalapati devi	65	M	VIL-Barot. PO- Chhat, Teh.- Gumarwin, Distt.-Bilaspur	Agriculture
8	Shaddi devi	70	F	VIL-Balohni, PO- Bhekhli, Teh.-Kullu, Distt.-Kullu	Agriculture
9.	Naag Ram	65	M	VIL-Chubhani, PO- Bahyla, Teh-Thunag, Distt.-Mandi	Hakim,

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS), Under the license CC BY- 4.0

					Agriculture
10.	Parvati devi	65	F	VIL- Baragaon, PO-Drang, Teh-Padha, Distt.-Mandi	Agriculture
11.	Sushil Kumari	48	F	VIL Kalpa, PO- Kalpa,Teh.- Kalpa, Distt.-Kinnaur	Agriculture
12	Vinay singh negi	43	M	VIL Kalpa, PO- Kalpa, Teh.- Kalpa, Distt.-Kinnaur	Agriculture
19.	Parvati devi	65	F	VIL-Baragaon PO. Drang Tehsil-Padhar Distt.Mandi	Agriculture
13.	Anup chand	34	M	VIL- Baga. PO- Bagachanogi, Teh – Sundar nagar,Distt.Mandi.	Agriculture
14.	Anupriya	18	F	VIL= kotli, PO-Samraham, Teh- Kotli.Distt.-Mandi.	Farming and broom making
15.	Kehar singh	62	M	VIL-Chanju. PO -Chanju. Teh-Tissa,. Distt.-Chamba	Agriculture
16.	Rhekha Devi	54	F	Bard No-11Nagar Nigam Dharmshala, PO- Dharmshal. Distt. -Dharamshala.	Farming
17	Anita Kumari	55	F	VIL-Panalth. PO Harsar. Teh Jawali,Distt. Kangra	Farming
18	Meena Devi	26	F	VIL.- Dari, PO- Chail chowk. Teh- chachyot,Distt -Mandi.	Agriculture
19	Jagdish Thakur	52	M	VIL-Chanala. PO- Kamand, Teh- Sadar. Distt -Mandi.	Perist, Farming
20	Dr. Monica Sharma	38	F	Dr. YS Parmar, University Of Horticulture & Forestry (Solan) Neri. Hamirpur	Associate Professor .
21.	Khimi Devi	45	F	Vill- Patyoda, P.O.- Maloh, Teh--SundenagarDistt -Mandi.	Agriculture, Pickle making
22.	Lata devi	43	F	Village-Kamand, P.O. Kamand, Tehsil Sadar Mandi.	Pickle and Badiyan selling
23.	Jaya Devi	37	F	Vill.- Jadron, P.O.- Bayla, Teh-Sundenagar.Distt -Mandi.	Traditional Processing of Herbs
24.	Sarla Devi	40	F	Vill.- Jadron, P.O.- Bayla, Teh-Sundenagar.Distt -Mandi.	SHG member herb selling
25	Mr. Jaswant Singh	43	M	Village Luhnu, P.O. Bayla Tehsil- SundernagarDistt -Mandi.	Panchyat Pardhan

3. Results and Discussion

1.To know diversity, distribution, parts used and season of availability of wild food plants usefullness in boosting immunity, fighting COVID-19 and for future challenges like COVID-19.

Ninety-five(T= 12 spp; Sh= 21 spp. H= 59 spp. Fruiting Body=3) plant species belonging to forty families and seventy seven genera were documented. These are known to have rich nutritive, medicinal value and are excellent sources of minerals like Zn, Mg and antioxidants like Vitamin A, C, D, etc. Family Asteraceae has been found dominant represented by 8 species followed by Lamiaceae (7 sp.) Rutaceae and Brassicaceae (represented by 6 sp. each). Among genus, *Ficus* was found dominant represented by 4 sp. followed by *Amaranthu*s, *Oxalis,Rumex* and *Citrus* represented by 3 sp. each. Most of these wild plants are used by local people to get rid of cough, cold, bronchitis and can be further employed to boost immunity and protection from COVID -19 Table 2. Fig 1,2.

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS), Under the license CC BY- 4.0

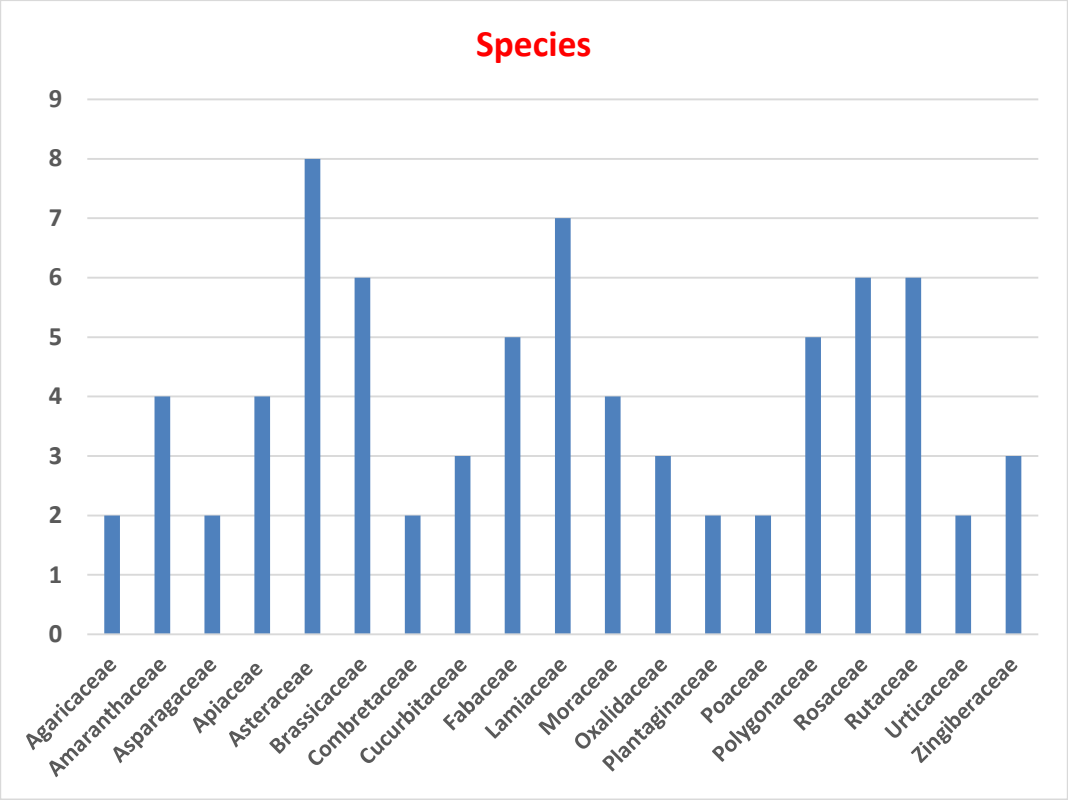

Fig. 2.Diversity of dominant families having wild food plants helpful to prevent COVID-19

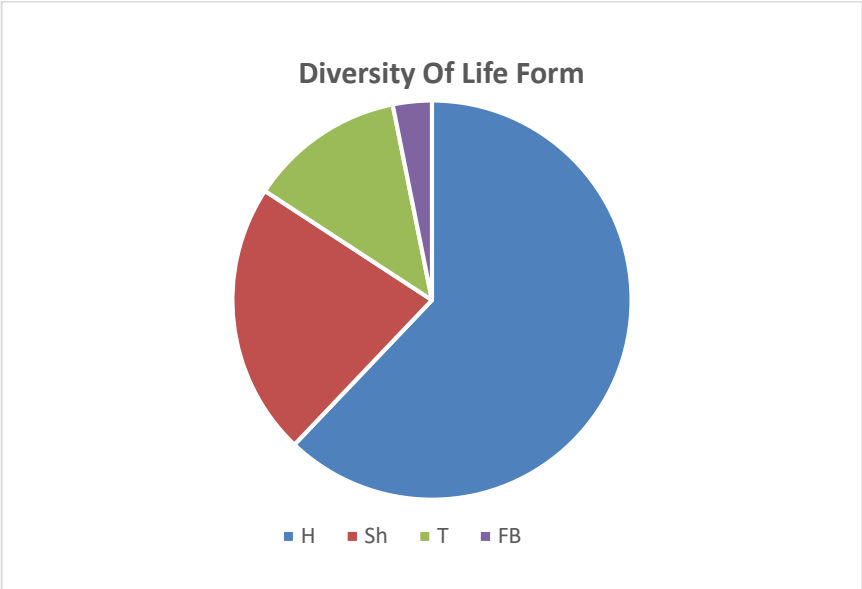

Fig. 3.Diversity of life form of wild food plants helpful to prevent COVID-19

Table 2: Diversity, Distribution, parts used, food value, Indigenous knowledge, food value, medicinal value & season of availability of wild food plants useful in boosting immunity and fight COVID-19

Family/ Botanical Name/common Name/ Local name	Cuisine	Parts Used	Altitudinal Range (m) & Habit	Food Value (Fd)	/Medicinal value (Md)		Availability / Market rate (Rs)
					Local Uses	Uses in Literature	
Agaricaceae							

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS), Under the license CC BY- 4.0

Macrolepiota procera/ Parasol mushroom / *Badi chhattri*	Vegetable, Pickle. Palau/	Fruiting body	Fruiting body	Moisture (g/100 g of fresh weight) 90.01;Ash, 9.86; Fat, 1.45; Protein, 7.62, Carbohydrates 80.38. Energy, 365.01,Mannitol 4.73, Trehalose 2.92, Fatty acids Stearic acid 2.38 ; Linoleic acid 64.55(Buruleanu, et al., 2018)		Possess antioxidant, antimicrobial, and anticancer properties(Fernandes,et al., 2018)	Rainy season to early autumn/
Morchella esculenta/ Honey combed mushroom/ *Guichchhee*	Veg, Veg curry, Pickle.	Fruiting body	1500 to 3000. (Fruiting body)	Energy (g/100 g of fresh weight) 31 Kcal, carbohydrates 5.10 g, protein 3.12 g, total fat 0.57 g, dietary fiber, 2.8 g;B3, 2.252 mg;B5, 0.440 mg;B6. 0.136 mg;B2, 0. 205 mg;B1, 0.069 m; Vit. D, 206 mg; Ca, 43 mg; Cu, 0.625 mg; Fe, 12.18 mg; Mg, 19 mg: Mn, 0.587 mg; P, 194 mg; Zn, 2.03mg. https://www.nutritionvalue.org/Mushrooms%2C_raw%2C_morel_nutritional_value.html	Considered a tonic & highly valued for increasing body strength.	*Antitumor,Antioxidant,Anti-inflammatory ,Immune enhancement* (Nitha &Janardhanan, 2005)	Autumn-Rainy season/ Rs 15000/kg
Alliaceae							
Allium ampeloprasum/ Wild Leek Elephant Garlic/ *Luhan*	Veg, *siddu*, *Chutney*	Bu, Lf, & Fl	1500- 3000 m (H)	100 g of cloves contain ; Water 78.3 g, Energy 85 Kcal, Protein 1.67 g, Total Fat (lipid) 0.34 g, Ash 0.79 g, Carbohydrate 16.6 g, Total dietary Fiber 4.23 g, Ca 75.6 mg, Fe, 0.54 mg, Mg, 17.1 mg, K 455 mg, Na, 32.7 mg, Zn, 0.752 mg, Cu, 0.11 mg, Mn 0.11 mg, Vit. B9, 145 µg; Vit. C, 3.44 mg; Vit. E, 0.03 mg, Oxalic acid 50.3 mg, Glutamic acid 21.7 mg, Malic acid 70.9 mg, Citric acid 24.4 mg, Fumaric acid 0.85 mg, Succinic acid 2.14 mg https://www.nutritionvalue.org/Mushrooms%2C_raw%2C_morel_nutritional_value.html	Used to manage highcholesterol.	Boost oxygen distribution in the body, increases energy levels, and supports healthy immune function (Bown, 1995)	Late autumn to the rainy season/
Amaranthaceae							

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS), Under the license CC BY- 4.0

Achyranthes aspera/ Devil's Horsewhip/ *Puthkanda*	*Kheer*, Veg, *Kachru*,	Lf, Sd	2000 m (Sh)	Plant contains moisture 4.05%, proteins 20.54%, fats 0.903%, ash 20.25%, carbohydrates 54,26% and energy 294 Kcal. Vitamin profile was found to be B(1) 0.27mg/100g, B(2) 0.28mg/100g, B(3) 0.58mg/100g, B(6) 0.27mg/100g and B(9) 39µg/100g. The content of Na, Ca, Mg, K, Cl and P was found to be 1119.67, 5385.23, 5446.08, 1343.6, 675880.73 and 1447.5mg/kg respectively and trace metals i.e. Fe, Cu, Zn, Mn and Al were detected as 283.05, 8.062, 48.37, 16.12 and 9.853 mg/kg respectively.https://www.ncbi.nlm.nih.gov/pubmed/25176360.	The whole plant is useful in the treatment of dropsy, piles, boils, toothache and skin problems. Rt & St are useful in toothache & used as a toothbrush.	Used as diuretic, febrifuge, abortifacient, germicidal, tonic and pot- herb and for asthma, antifertility in women, boils, bronchitis, cold, colic, child birth, cough, debility, dropsy, dysentery, ear complaints, eye complaints, headache, hydrophobia, insect- bite, liver complaints, pain in ribs and body, piles, pneumonia, reducing hunger, renal complaints rheumatism, scabies, scorpion- bite, skin diseases, snake- bite, sore, stomachache, syphilis, toothache whooping cough, wounds; and also to expel placenta, worms and ward off ghosts**.** It is reported to be useful in cancer. (Karnick et al., 1981.Jain, 1991;Purohit, et, al,. 2009)	Spring season to pre-winter/
Amaranthus tricolor /Chinese Spinach/ *Chaulai*	*Saag*, Upmma, *Rehdoo*, *Kheer*	Ts, Lf & Sd	2000 m (H)	Lf contain about 3.5% protein, 0.25% fat, 6.6% carbohydrate, 3.1% ash, 24mg Fe per 100g, 464mg Ca per 100g, they are rich in vitamin A & have a fair content of vitamins B1 & C. On a zero-moisture basis 100g of the Lf contains up to 2441mg Ca, 1008 mg P, 51mg Fe, 34mg Na, 4475mg K, 37,623 mg beta-carotene equivalent, 0.68mg B1, 2.37mg B2, 11.48mg B3& 730mg C(Purohit et al., 2009)	Decoction of mature plant is helpful to strengthen liver and eve sight.	The plant is considered to be astringent, diuretic, appetizing, digestive & leucorrhoea (Duke and Ayensu, 1985)	Pre-summer to the rainy season Sd=summer to the beginning of autumn
Amaranthus spinosus/Spiny Amaranth/*Kanta Chulayee*	*Saag*, Upmma,*Rehdoo,Kheer*	Ts, Lf, and St	1500 m (H)	Dried Lf contain (per 100g) 267 – 276 calories, 20 – 34.4% protein, 2 – 4.5% fat, 45 – 54% carbohydrate, 9.8 – 10.4% fibre, 16.6 – 24% ash, 1795 – 5333mg Ca ,333 – 460mg P, 13.5 – 152.7mg Fe, 13 – 37mg Na, 337 – 3528mg K, 27.9 – 40.8mg beta-carotene equivalent, 0.06mgB1 , 2.02mgB2 , 7.7 – 8.6mg C. (Duke and Ayensu, 1985)	The seed is used as a poultice for broken bones. Used to control excessive bleeding during menstruation.	The plant is astringent, diaphoretic, diuretic, emollient, febrifuge and galactogogue. It is used internally in the treatment of internal bleeding & diarrhoea (Bown, 1995)	Summer end to pre-winter season/
Amaranthus viridis/Wild amaranth/*Chaulayee*	*Saag*, Upmma,*Rehdoo,Kheer*	Ts, Lf, and St	(H)	100 g fresh Lf contains 87.9 per cent moisture; 2.11 g crude protein, 1.93 g crude fibre, 7.76 g carbohydrates, 0.47 g; fat and 1.85 g of total minerals. The calorific value has been found to be 43.35 kcal. (Anonymous, 1985)	Considered good to cure excess bleeding during menstruation fever, cough and strengthen liver, eye sight.	Fresh Lf or dried powder, are used in poultices to treat inflammations, boils and abscesses, gonorrhoea,bronchitic and haemorrhoids.(Kirtikar &Basu, 1935)	Bunches of 250-300 g of *chulayee* easily sell for 10-15 rupees.
Apiaceae							

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS), Under the license CC BY- 4.0

Angelica glauca/ Smooth Angelica/ *Chora*	Local alcoholic drink/ Used as spice	Sd & Rt	2500 to 3000m (H)	N/A	Dried Rt are used as tonic and increases appetite.	The Rt are pungent, aromatic, stomachic, tonic, stimulant, carminative, diphoretic, and diuretic.it is given in typhoid conditions, bronchitis, flatulence, colic and pain in the stomach. Rt are tonic. (Purohit *et al*., 2009)	Rt can be harvested round the year Sd summer end to pre-winters
Centella asiatica/ Gotu Kola/ *Brahmi*	Veg, Leaves curry, *Kachru*,*Saag*, Refreshing summer drink & Tea	Lf	1500 m (H)	The herb is rich in antioxidants, including beta-carotene & B-complex vitamins; Energy 32 kcal; dietary fibre 2.0gm; protein 1.6 gm & small quantities of Vitamin B1,B2,B3 and C.(Anonymous, 1985)	Used as memory booster, tonic and to manage diabetes and nervous disorder.	Wp is alterative, cardio-depressant, hypotensive, weakly sedative and tonic. It is a rejuvenating diuretic herb that clears toxins, reduces inflammations and fevers, improves healing and immunity, improves the memory and has a balancing effect on the nervous system.(Kirtikar &Basu, 1935; Bown, 1995;)	Round the year
Cyclospermum leptophyllum/ Slender Celery/*Jungli ajwain*	*Saag*, Masala Oats,*Kachru or sosaru*, *Rayata*	Lf	700- 1500 m (H)	N/A	Powered Sd are used to cure cough while fresh are used to cure cough.	Sd are useful in bronchitis, cough, and asthma by various traditional practitioners of India. (Bown, 1995;Asamenew *et al*., 2008;Hardel *et al*., 2012;Sahoo *et al*., 2015.)	Winter to summer
Foeniculum vulgare / Fennel/ *Saunf*	Vegetable & Masala Tea	WP	2000 m (H)	100 g of dried plant contains moisture, 90.21 g; Energy, 31 kcal; Protein, 1.24 g, Total lipid (fat), 0.2 g; Carbohydrate, 7.3 g; Total dietary fiber, 3.1 g; Sugars, 3.93 g; minerals, Ca, 49 mg; Fe, 0.73 mg; Mg, 17 mg; P, 50 mg; K, 414 mg; Na, 52 mg; Zn, 0.2 mg; Vit. C, 12 mg; B1, 0.01 mg; B2, 0.032 mg; B3, 0.64 mg; Vitamin B6, 0.047 mg, Fe, 27 µg; Vit. A, 48 µg; Vit. E, 0.58 mg; Vit. K, 62.8 µg(Badgujar, 2104).	Local people use fruits decoction to cure indigestion, cough and cold.	Plant is considered useful as an aromatic, stimulant and carminative, and for burning sensation in body, chest diseases, colic, cough, dysentery, fever flatulence, headache, kidney problems, menstruation and spleen complaint, thirst, toothache and wounds(Uniyal, 1968;Ambasta, 1986;Bhalla et al., 1992)	Summer to winter season
Anacardiaceae							
Mangifera indica/ Mango/ *Aam*	Aambuaa, Chutneys, jam, pickle	Fr	1000- 1200 m (T)	Energy 60 Kcal, Carbohydrates. 14.98 g,; Protein.0.82 g,; Fat,0.38 g; Fiber; 1.6 g, Vit.C, 36.4 mg; Vit. E, 1.12 mg; Vit. A, 1082 IU;Vit B3, 669 µg,;Vit B5, 160 µg; Vit B6,119 µg, Vit B2, 38 µg:Vit B1, 28 µg, B9, 43 µg, Vit. K. 4.2 µg; K ,168 mg, P. 14 mg, Ca, 11 mg, Mg 10 mg, Na, 1 mg, Cu, 110 µg, Fe, 160 µg, Mn, 27 µg, Zn, 90 µg, β−Carotene 445 µg, α−Carotene 17 µg. 100 g of Sd contains 13 g	Rt, Lf & Br are astringent, acrid, refrigerant & useful in vitiated conditions of pitta,	Rt & Br are styptic, antisyphilitic, vulnerary, antiemetic, anti-inflammatory and constipating.metrorrhagia, colonorrhagia, pneumorrhagia, lucorrhoea, syphilis, wounds, ulcers, vomiting, uteritis, diarrhoea, dysentery, diphtheria and rheumatism. Lf are astringent, refrigerant, styptic, vulnerary and constipating. They are useful in conditions of kappa and	Summer end to end of rainy season/ Fr = 40 Rs/ per Kg

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS), Under the license CC BY- 4.0

				of Total Fat, 32.24 g of Carbohydrate, 0.19 mg of Vit, B6, 6.36 g of Protein, 1.3 mg of Vit, E, 2.02 g of Total dietary Fiber, 22.34 mg of Mg & 0.12 µg of Vit, B-12. Moreover many Amino acids 8.4 g of Leucine, 3.23 g of Isoleucine, 2.31 g of Histidine, 3.8 g of Valine, 2.04 g of Threonine and 3.13 g of Lysine (https://www.healthline.com/nutrition/mango)		pitta hiccough, hyperdipsia, burning sensation, haemorrhages, haemoptysis, haemorrhoides, wounds, ulcers, diarrhoea, dysentery, pharyngopath and somatopath.(Purohit *et al*., 2009)	
Asparagaceae							
Asparagus adscendens/ Shatawari/ *Sansarpali*	*Kachru*, Shoot veg, Butter milk	Ts, Bu & cladodes	1800 m (Sh)	100gm of Rt contains, Energy 20kcal; carbohydrates 3.38gm; protein 2.20 gm; total fat 0.12gm; dietary fibre 2.1gm; vit. E 1.13mg; vit. C 5.6mg; niacin 0.97mg; Na, 2mg; K,202 mg; Ca, 24 mg;, Mg, 14 mg; P, 52mg; Zn, 0.54mg & small amounts of alpha-carotene and beta-carotene. (Komor & Devi, 2016)	Powdered Rt is is used as tonic.	Rt is demulcent, used as tonic & useful in diarrhoea, galactagogue, dysentery, and general debility. These are Antispasmodic, appetizer and have cooling effect on body. Rt known to increase sperm count and maintaining hormonal balance, thus increase fertility both in man and women. Plant also possess antioxidant properties and is a perfect rejuvenative tonic for those people suffering from fatigue problems. Mg present in asparagus energizes cells and helps in relieving health disorders like fatigue, depression anxiety and headache. Detoxification property of sansarpali plant cleanses blood cells, regulate blood pressure, blood sugar and improving immune system.(Bown, 1995)	Cladode & Rt round the year
Asparagus filicinus/ Fern Asparagus/*Sans arbuti*	*Kachru*, Veg & Pickle	Cladodes and Rt	2200- 3000 m (Sh)	N/A	Powdered Rt is used as tonic	The dried Rt of this plant has been reported for its usage as antipyretic, antitussive, diuretic, expectorant, stomachic, nervous stimulant and tonic. Steroidal saponins are generally considered pharmacologically important (Reviews on Indian Medicinal Plants,2004)	Green cladodes and Rt throughout the year. Young Stduring spring to rainy season
Asteraceae							

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS),
Under the license CC BY- 4.0

Achillea millefolium / Yarrow/ *Losar*	*Saag*, Herbal Tea &*Kachru*	Lf & Fl	1800- 3500 m (H)	N/A	Local people chew the Lf or Rt to relieves toothache for immediate effect. homoeopathic medicines as a carminative, tonic, stimulant and diuretic	A decoction of the Lf & Fl heads is employed as a carminative, tonic and aromatic stimulant 8.9. It expels kidney stones and is useful in fever, nasal congestion and stomach diseases. (Purohit *et al*., 2009; Singh, 2018)	Summer to rainy season
Cirsium arvense/ Creeping Thistle/ *Chiuli*	Veg, *Saag*	St, Lf & Rt	1500 m (H)	N/A	Rt is tonic, diuretic, Rt juice has cooling effect on body and very effective remedy against nose bleeding,	Rt is often chewed as a remedy for toothache. Rt astringent, antiphlogistic and hepatic..poultice is used to relieve headache((Kirtikar &Basu, 1935)	St, Lf & Rt throughout the year
Erigeron annuus/ Annual Fleabane/ *Phuntha*	*Saag*& Tea	Lf	1800 m (H)	N/A	Tea is made to get relief from cough.	Antimicrobial, diuretic, astringent, respiratory, congested cough, digestion, diarrhoea, loss of appetite, kidneys and bladder, menstrual problems, postpartum bleeding, haemorrhage kidney stimulant, antioxidant (.https://www.gardensall.com/daisy-fleabane.)	Summer to autumn/
Eclipta prostrate/ False daisy/*Bhringraj*	Vegetable, *Chutney*, *Poha*, Masala oats, *Paranth*a & *Kachru*	Lf & Ts	1000 m (H)	N/A	Used in hair treatment, powdered root is taken as tonic.	Useful in the treatment of anti fertility, asthma, bronchitis, eye disorders, conjunctivitis, fever, gastric problems, gland swelling, headache, hepatic disorders, itching, jaundice, leukoderma, liver complaints, malaria, dandruff, scorpion- sting, skin diseases, sores, spleen enlargement, swelling, toothache, ulcer wounds and veterinary diseases, and as an antidote, antiseptic, tonic and vegetable. It is natural source of antioxidant and shows antibacterial activity of this plant (Kirtikar &Basu, 1935, Karthik *et al*., 2007)	Rainy season/
Gamochaeta pensylvanica/ Spoonleaf purple everlasting/ *Dhoodu*	Saag, *Kachru*,	Ap	1700 m (H)	N/A	Used as a gargle or rinse to treat mouth or throat diseases	Used to cure diabetes, high blood pressure, stomach ulcers, diarrhea, gut infections etc. (Chopra et al.,1982)	Spring to pre- winter season
Sonchus asper/ Blue sow-thistle/ *Bhursalae*	Veg, *Saag*& Soup	Ts	4000 m (H)	N/A	Powdered Ap parts are excellent remedy for headache &	Plant extract is applied to fresh injuries & latex in the plant has been used as a treatment on warts. sore throat,Consuming a few Lf	leaves from spring to autumn

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS),
Under the license CC BY- 4.0

					also applied as a poultice to wounds & boils. Powdered Rt taken as tonic	for 15-20 days daily removes haemmoroide Lf & Rt used angaist fever & indigestion.(Kirtikar &Basu, 1935)	
Tagetes minuta/ Wild marigold/ *Jangali- genda*	Beverage/Tea	Ap	3000 m (H)	N/A		The ethanolic extracts of the entire herb show anti-viral activity against ranikhet – disease virus. The juice of the herb causes diaphoretic (Purohit *et al*., 2009)	pre –winter Oil= 400 (10 ml)
Taraxacum officinale/ Dandelion/ *Laung*	*Saag, Kachru*, Root Tea	Lf, St, Rt & Fl	300- 5500 m (H)	100g of the raw fresh Lf contain about 2.7g. protein; 9.2g carbohydrate; 187mg; Ca, 66mg; P;3.1mg; Fe;76mg, Na,397mg; K, 36mg;B1,0.19mg; B2,0.26mg; B3, 0.81 mg; Vit. B1, 0.26 mg; Vit, B2, 35mg, Vit. C; Vit. E, 3.44 mg; Vit. K, 778.4 µg; 14000 µg vit. Ahttps://www.ncbi.nlm.nih.gov/pubmed/25176360.	Plant is remedies for fever, boils, eye problems, diabetes, cancer and diarrhoea.	Plant is tonic, blood purifier, laxative with strong antioxidant capabilities that can prevent aging and certain diseases, help to reduce weight and boost immune system. Rt and Lf used to treat liver problems. kidney disease, swelling, skin problems, heartburn, and upset stomach. Plant extract Treat stomach problems, appendicitis, and breast problems, such as inflammation or lack of milk flow.(Purohit *et al*., 2009)	leaves, roots all year round and flowers during spring season
Balsaminaceae							
Lepidium sativum /Garden cress/ *Halae*	Vegetable, *rayata*, *Kachru*, *paranth*a, poha & soups	Young Lf, Rt, Sd & Sd pods	800- 2000 m (H)	Serving Size: 1 Cup, 50 g Water, 44.7 g; Energy, 16 Kcal; Protein, 1.3; Total Fat (lipid), 0.35 g; Ash, 0.9 g; Carbohydrate, 2.75 g; Total dietary Fiber, 0.6 g; Total Sugars, 2.2 g; Minerals Ca, 40 mg; Fe, 0.65 mg; Mg. 19 mg; P, 38 mg, K, 303 mg, Na, 7 mg, Zn, 0.12 mg, Cu, 0.085 mg, Mn, 0.276 mg; Sl, 0.4 µg;Vit. B1,0.04 mg; Vit.B2, 0.13 mg; Vit. B3, 0.5 mg; Vit. B5, 0.121 mg; Vit, B6, 0.124 mg; Vit, B9,40 µg; Choline 9.8 mg; Vit. C. 34.5 mg; Vit. E, 0.35 mg; Vit. K, 271 µg https://www.healthbenefitstimes.com/Garden-cress	Lf are stimulant, diuretic and antibacterial and are useful in scurvy treatment.	The Rt are bitter and acrid, and are useful in secondary syphilis (sexually transmitted bacterial infection) and tenesmus (A painfully urgent but ineffectual attempt to urinate). Sd are bitter, thermogenic, depurative (purifying), rubefacient (redness of the skin), galactagogue(promotes lactation), emmenagogue (stimulate menstruation & blood flow), tonic, aphrodisiac (stimulates sexual desire), ophthalmic and diuretic. It can be administered (boil with milk or chew in large quantities) to cause abortion. (Chopra et al., 1956;Chatterjee and Pakrashi, 1997; Purohit et al., 2009.)	late winter to summer end
Berberidaceae							
Berberis lycium/	Veg,	WP	2500 m	Rt (B. lycium) possess dry	Chutney	A decoction of Rt	Spring to

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS), Under the license CC BY- 4.0

Indian Lycium/ *kasmalae*	Dessert, Chutney, *Rayata*, *Kachru*, Tea & alcoholic Drink from Rt		(Sh)	matter, 61.2%; moisture, 20.5%; protein, 4.5%;fat, 2.6%; sugar, 3.5%; fibre, 2.5%; and Vit, C, 0.3%. Berberine and palmitine are found in Rt in concentration of 4.5 and 3.1%, respectively. Fr also contain dry matter, 62.5%, moisture, 12.5%; protein, 2.5%; fat,1.8%; sugar, 4.5%; fibre,1.5% and Vit, C, 0.8% in considerable amount3 . 2.9% berberine is present in FrGulfraz et al., 2004)	prepared from Fl cure dysentery during teething in small children.	"Rasaunt" and is used to cure eye infections. In Yunani system of medicine Rt is considered bitter with an unpleasant taste& used in splenic troubles; tonic, febrifuge; intestinal astringent; good for cough, chest and throat troubles, eye sores and itching of the eyes; piles, menorrhagia; useful in chronic diarrhea; allays thrist. (Uniyal SR. et al., 2006;Chauhan, 1999.)	autumn season/ Fr= 150 to 200 /250 g
Brassicaceae							
Alliaria petiolata/ Garlic Mustard/ *Masrughaa*	Vegetable, *Chutney,Khatta & Rayata*	Lf & Fl	1000- 1500 m (H)	N/A	The Lf taken to promote sweating and to treat bronchitis, asthma and eczema.Applied externally, these are used as an antiseptic poultice on ulcers etc. and are effective in relieving the itching caused by bites and stings.	The Lf and St are antiasthmatic, antiscorbutic, antiseptic, deobstruent, diaphoretic, vermifuge and vulnerary. The juice of the plant has an inhibitory effect on Bacillus pyocyaneum and on gram-negative bacteria of the typhoid-paratyphoid-enteritis group. The seeds have been used as a snuff to excite sneezing.(Chiej, 1984; Grieve, 1984; Arayne et al., 2007;Genders, 1994)http://www.feis-crs.org/feis/)	Spring to beginning of summers/ Le= Rs 30 to 40 /kg
Brassica juncea/ Brown Mustard/ *Raie*	Saag, *Rayata*,	Sd&Ap	3000 m (H)	1. Serving Size: 1 Cup, 140 g Calories 36 Kcal; Water, 128.49 g ; Energy, 36 Kcal; Protein ,3.58 g; Total Fat, 0.66 g; Ash, 0.97 g; Carbohydrate, 6.31 g; Total dietary Fibre, 2.8 g; Total Sugars, 1.97 g; Minerals Ca, 165 mg; Fe, 1.22 mg; Mg, 18 mg; P,59 mg; K, 227 mg; Na, 13 mg; Zn, 0.31 mg; Cu, 0.204 mg; Se, 0.8 mg; Vit. B1, 0.057 mg; Vit. B2, 0.088 mg; Vit. B3, 0.606 mg; Vit. B5, 0.168 mg; Vit. B6, 0.137 mg; Vit. B9, 13 µg; Folate, food 13 µg; Folate, DEF 13 µg; Cl, 0.6 mg; Betaine 0.3 µg; Vit. C,35.4 mg; Vit. A, 865 µg; Beta Carotene, 10360 µg; Alpha Carotene, 13 µg; Beta Cryptoxanthin, 49 µg; Lutein + zeaxanthin, 14560 µg; Vit. E, 2.49 mg; Vit. K, 829.8 µg .https://www.healthbenefitstimes.com/health-benefits-of-mustard-greens	The Sd are acrid, bitter, digestive & tonic. ,Rt are useful in vitiated conditions of vata and kapha, dengue fever,	Sd & Rt thermogenic, anodyne, anti-inflammatory, carminative, and anthelminitic, aperient, sudorific and abdominal colic, anorexia, dyspepsia, intestinal worms, flatulence, inflammations, morbid state of the cerebrospinal system, skin diseases, spelnomegaly and persistent vomiting. Mustad is used in large dose as an emetic in cases of poisoning and will cause hyuperdispia, burning sensation, and other disorders due to the vitiation of pitta. (Purohit *et al*., 2009)	Pre-winter to spring season

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS), Under the license CC BY- 4.0

Cardamine hirsuta/ Hairy Bittercress/ *Gujjar ghas*	Saag, *Kachru & Rayata*	Lf & Fl	700-2500 m (H)	Per 100 g of fresh leaves contain;Moisture; 92.89 g, Ash; 1.78 g, Fat; 0.239 g, Fiber;1.64 g, Protein; 3.99, Carbohydrate; 1.70 g, Calorific value; 22.45 kcal. Minerals (mg/100 g dried sample) Na; 100.48, K ;10462.28, Ca; 6.20, Mg; 5.60, Fe; 6.10, Cu; 1.62, Zn; 0.30, Mn; 0.64, Ni; 3.60, Cr; 0.87 , Co; 0.57, Se; 1.83.Pb; 0.86 (Basumatary and Narzary; 2017)	.Plant boost immunity and help in cancer prevention		Pre-winter to pre-summer
Lepidium sativum/ Garden cress/ *Halae*	Poha, Soup & *Rayata*	Young Lf, Rt, Sd & Sd pods	800- 2000 m (H)	Serving Size: 1 Cup, 50 g.Water, 44.7 g; Energy, 16 Kcal; Protein, 1.3; Total Fat (lipid), 0.35 g; Ash, 0.9 g; Carbohydrate, 2.75 g; Total dietary Fiber, 0.6 g; Total Sugars, 2.2 g; Minerals Ca, 40 mg; Fe, 0.65 mg; Mg. 19 mg; P, 38 mg, K, 303 mg, Na, 7 mg, Z, 0.12 mg, Cu, 0.085 mg, Mn, 0.276 mg; Se, 0.4 µg;Vit. B1, 0.04 mg; Vit. B2, 0.13 mg; Vit. B3, 0.5 mg; Vit. B5, 0.121 mg; Vit. B6 , 0.124 mg; Vit. B9 ,40 µg; Choline, 9.8 mg; Vit. C, 34.5 mg; Vit. E, 0.35 mg; Vit, K, 271 µg (https://www.healthbenefitstimes.com/Garden-cress)	The Rt are bitter and acrid, and are useful in sexually transmitted bacterial infection and to relef painfull urination.	The Lf are stimulant, diuretic and antibacterial and are useful in scurvy treatment and homeopathy. The Sd are bitter, endothermic, purgative, redness of the skin, promotes lactation, stimulate menstruation & blood flow, tonic, aphrodisiac (stimulates sexual desire), ophthalmic and diuretic. (Purohit *et al*., 2009)	Edible plant parts can be collected from late winter to summer end
Lepidium virginicum / Wild Pepper Grass/ *Alon*	Veg, Masala Oats, Soup, *Rayata, Kachru, Paramtha,* Poha	Lf, Fl, Rt & Sd	1500 m (H)	N/A	It has been used to treat vitamins c deficiency, diabetes, and to expel intestinal worms. .	The herb is diuretic and benefit in easing rheumatic pain. The Rt is taken to treat excess catarrh within the respiratory tract. (Purohit *et al*., 2009)	Spring end to autumn season
Thlaspi arvense / Pennycress/ *Chopda ghaa*	Saag, Salt &*Kachru*	Lf	1000-4000 m (H)	100g of dry Lf contains: Protein: 54.2g; Carbohydrate: 33.1g; Vit. C: 1900 mg (Duke and Ayensu, 1985)	Antirheumatic , diuretic. The Sd used as tonic. Both the Sd and the young St are said to be good for the eyes.	The entire plant is antidote, anti-inflammatory, blood tonic, depurative, diaphoretic, expectorant, febrifuge and hepatic. It is used in the treatment of carbuncles, acute appendicitis, intestinal abscess, post-partum pain, dysmenorrhea and endometriosis. Use with caution since large doses can cause a decrease in white blood cells, nausea and dizziness. The plant has a broad antibacterial activity, effective against the growth of Staphylococci and streptoco (Uphof, 1959;Usher, 1974; Duke	late winter to spring end

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS),
Under the license CC BY- 4.0

						and Ayensu, 1985;Yeung, 1995.)	
Caryophyllaceae							
*Drymaria cordata/*Tropical Chickweed/*Kharish-gulab*	*Saag/kachru/*	Ts,Lf	2000m (H)	100g ofLf containsMoisture,10.67%; Crude protein, 20.57%; Ether extract, 0.32 %; Crude fiber, 15.00 %; Total ash, 9.00%; Carbohydrate, 44.44%; Gross energy, 262.92 Kcal. Mineral content is Ca, 0.978%; P, 0.600%; Zn, 10.760 ppm;Fe 792.000ppm; and Cu, 1.000ppm (Barua,et al.,2015)	Locally powdered plant is given with cold water in morning hours for one month to restore sexual potency in women.	Its sap is said to be febrifuge and laxative[3]. It has an aromatic pungency leading it to be much used in many countries for treating respiratory chest-ailments, colds and bronchitis[3].The dried leaf is smoked like a cigarette for treating chest-complaintsandbronchitis.(Burkill, 1995:Ruffo,et al.2002)	Summers to autumn season
Silene vulgaris / Bladder campion/ *Jhunjhunu gha*	*Saag*	Lf	2200- 2500 m (H)	Water, 85.9 g; Energy, 34 Kcal; Protein, 2.47 g; Total Fat (lipid), 0.67 g; Ash, 1.53g; Carbohydrate, 2.32 g; total dietary fiber, 4.36 g; Minerals Ca, 160 mg; Fe, 1.93 mg; Mg, 50.4 mg; P, 44.2 mg; K, 601 mg; Na, 22.4 mg; Zn, 0.408 mg; Cu, 0.114 mg; Mn, 0.709 mg; Vit, B9, 267 µg; Vit, C, 25.5 mg, Ascorbic acid, 17.1 mg, Dehydroascorbic acid, 7.34 mg (www.healthbenefitstimes.com › Herbs and Spices.)	The plant is said to be emollient and is used in baths or as a fumigant 1. The juice of the plant is used in the treatment of ophthalmia.	A decoction of the Rt in milk or water are used as an emetic; a general antidote in the treatment of poisoning; and a remedy against constipation and intestinal pains . An infusion is used externally to treat wounds, scabies, itching and various skin conditions. The plant is a potential immune stimulant, antiviral, and antibacterial (Chopra et al., 1956;Kermath et al., 2014; http://www.iucnredlist.org/.)	Summers from June to July
Crassulaceae							
Kalanchoe pinnata/ Life Plant/ *Patharkhar*	*Pakoras, Pakora* Curry, Potato fingers, *Kachru, Chutney*& Herbal asala tea	Lf & St	1000 m (H)	Plant contains (1.21 ± 0.07 and 0.8 ± 0.03%) ash, (72.92 ± 1.08 and 4.46 ± 0.52%) carbohydrate, (1.38 ± 0.06 and 1. 15 ± 0.05%) fat, (6.02 ± 1. 06 and 0.95 ± 0.06%) fibre, (5. 38 ± 0.10 and 1.61 ± 0.02%) protein, and (13.01 ± 1.03 and 91.03± 0.55%) moisture in dry and fresh samples respectively. The result also revealed that K (3.49±0.01and 3.74 ±0.04 %) and Ca (4.99±0.01 and 6.82 ± 0.04 %) were the major minerals present in the samples. (Nwali et al., 2014)	Plant is helpful in treatment of kidney stones, urinary disorders, leukaemia, vaginal disorders, headache, leucorrhoea, piles, grey hair,	Plant is antibacterial, antiviral, antimicrobial, antifungal, antihistamine and anaphylactic properties. It is used in variety of ailments such as inflammations, ulcers, fungal, viral and microbial infections, an impaired immune system, diabetes mellitus, spasms and insect bites. It is good for almost any ailments like high blood pressure, headaches, abscess, and swellings. Tea made from stem and leaves is used for menstrual cramps, asthma and helps with sinus issues as well as increasing energy levels. It is also consumed to clean the bladder and get rid of harmful toxins from the intestines.jaundice, weight management, cold and coughs (Kamboj and Saluja, 2009; https://www.healthbenefitstimes.com/Life-plant; www.homeremediess.com/a	Round the year

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS), Under the license CC BY- 4.0

						yurvedic-plant-bryophyllum-pinnatum uses-and-pics)	
Combretaceae							
Terminalia bellirica/ Myrobalan/ *Baheda*	Pickle	Fr	1000 m (T)	N/A	The Bk is mildly diuretic and useful in anemia and leucoderma. The Fr are astringent, acrid sweet, thermogenesis, anti-inflammatory, anodyne, styptic, narcotic, digestive, anthelmintic, and aperient, experctorant, ophthalmic, antipyretic, antiemetic and rejuvenating.	They are useful in vitiated conditions of kapha and vata, cough, bronchitis, pharyngitis, insomnia, dropsy, dyspepsia, flatulence, dipsia, vomiting, haemorrhages, ophthalmopathy, strangury, splenomegaly. Skin diseases, leprosy, fevers, ulcers and general debility1. The mature and dry fruit is constipating and is useful in diarrhea and dysentery. The oil obtained from the Sd is trichogenous and is useful in dyspepsia, skin diseases, leucoderma and greyness of hair.(Purohit *et al*., 2009)	Fr= Autumn to Winter/ Churan is sold Rs 50/100g.
Terminalia chebula /Black Myrobalan/ *Harad*	Pickle, *Murabba*, alcoholic Drink	Fr	1500 m (T)		Fr are laxative and digestive, and useful to treat vitamin C deficiency, cough, fever in the form of Triphala Churan. Considered good to enhance eyesight & manage blood pressure. .	Fr constitute one of the 'Triphala' of Ayurveda. Fr are astringent, sweet, acrid, bitter, sour, thermogenic, anodyne, anti-inflammatory, vulnerary, alterant, stomachic, and laxative, purgative, carminative, digestive, anthelmintic, cardiotonic, aphrodisiac, antiseptic, febrifuge, depurative and tonic. They are useful in vitiated conditions of tridosa wounds ulcers, inflammations, gastropathy, anorexia, helminthiasis, flatulence, haemorrhoids, jaundice, hepatopathy, splenopathy, cough, uropathy, versical, renal calculi and cardic disorder(Purohit *et al*., 2009; Singh, 2018)	Fr= pre autumn to mid winter/ Dried fruits Rs 10/ For 1 kg Triphala Churan Rs 500
Cucurbitaceae							
Coccinia grandis/ Ivy gourd/ *Kandiari*	Veg, Veg curry	Lf & Ts	1000 m (H)	N/A	Rt are cooling and aphrodisiac and are useful in vomiting, burning sensation and uterine discharge. The juice of the Rt and Lf is considered	Lf are bitter, sweet, astringent and cooling and are useful in vitiated conditions of kapha and pitta. The Fr are cooling, sweet, astringent, depurative, and antipyretic, galactagogue and expectorant and are useful in burning sensation, leprosy, skin diseases, and fever. Asthma, cough,	Lf round the year and fruits from pre rainy to winter

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS), Under the license CC BY- 4.0

					to be a useful treatment for diabetes.	bronchitis, consumption and jaundice. The fruits and leaves of the bitter variety and bitter, acrid, thermogenic, emetic, purgative, vulnerary, anti-inflammatory, anthelmintic, digestive, liver tonic, alexiteric, depurative, febrifuge, sudorific and expectorant and are useful in vitiated conditions of kapha and pitta, wounds ulcers, inflammation, helminthiasis, dyspepsia and hepatopathy. The juice of the stem is dripped into the eyes to treat cataracts.The Lf are used externally as a poultice in treating skin eruptions (Chopra et al., 1956; Purohit et al., 2009)	
Momordica balamina/ Balsam Pear/ *Van Krela*	Porridge, Pickle & Veg	Fr & Lf	1500 m (H)	Lf on dry weight basis contain (%) moisture, 71.00 ± 0.95; ash, 18.00 ± 0.56; crude protein, 11.29 ± 0.07; crude lipid, 2.66 ± 0.13; crude fiber, 29.00 ± 1.23; carbohydrate, 39.05 ± 2.01; calorific value, (kcal /100 g) 189.22; P; 1,320.00; Na, 122.49; Ca, 941; Mg. 220; P, 130.46; Mn, 11.6; Fe, 60.3; Cu, 5.44; Zn, 3.18; K/Na, 10.78; Ca/P 7.21 (Hassan & Umar, 2006)	.Deseeded Fr are infused in olive or almond oil and used against burns and hemorrhoid's and the mashed fruits are used as a poultice.	Plant extract is used to in control hyperglycemia It is one of the traditional medicines that have been used for decades for the management of diabetes. High potassium content is a good source for the management of hypertension and other cardiovascular conditions (Watt et al., 1962; Gills, 1992; Otimenyin et al., 2008.)	leaves and fruits from summer end to and pre winter
Momordica dioica/ *Jangli Karela*	Veg	Fr	1200 m (Sh)	One 100g unripe Fr contains 84.1g moisture, 7.7 g carbohydrates, 3.1 g protein, 3.1 g fat, 1.1 g minerals & small quantities of essential vitamins like Vit A, B1, B2&B3. (Singh *et al*., 2009)	The Rt are used with benefit in head troubles, urinary calculi; as an errhine in jaundice. The Lf are aphrodisiac, anthelmintic; cure "tridosha", fever, consumption, asthma, bronchitis, hiccough, piles.	The Fr is pungent, bitter, hot; alexiteric, stomachic, laxative; cures "vata", biliousness, asthma, leprosy, bronchitis, fever, tumours, "tridosha", urinary discharges, excessive salivation, troubles of the heart (Kritikar & Basu, 1935)	
Dioscoreaceae							
Dioscorea pentaphylla/ Buck Yam/ *Dareghal*	*Bhalle, Veg, Dahin Bhalle, Kachru Kachuri*	Bl, Lf & Tu	1500 m (H)	Serving Size: 1 Cup, 100 g Water ,77.14 g; Energy, 82 Kcal; Protein, 1.73 g; Total Fat (lipid), 0.08 g; Ash 1.06 g, Carbohydrate, 20 g; Ca, 8 mg; Fe, 0.43 mg; Mg, 10 mg; P, 40 mg; K, 495 mg; Na, 12 mg; Zn, 0.32 mg;	Used as tonic	Tu are applied on swelling of joints and used as tonic to improve body immunity, stomach pain and rheumatic swellingsInflorescence is used as vegetables for body weakness. Tu are useful to allay pain and swelling (Kamble andVelhal,	Pre-winter to spring season/ Tu= 250 to 500/ kg

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS),
Under the license CC BY- 4.0

	,siddu & Parantha			Cu, 0.129 mg; Mn,0.283 mg; Se, 0.9 µg, Vit. B1, 0.086 mg; Vit. B2, 0.014 m;, Vit. B3, 0.13 mg; Vit. B5, 0.48 mg; Vit. B6, 0.209 mg; Vit. B9, 12 µg. Moreover, many Amino acids like 0.014 g of Tryptophan 0.061 g of Threonine 0.059 g of Isoleucine 0.109 g of Leucine and 0.067 g of Lysine are also found in 100 gram of cooked tubers.(https://www.healthbenefitstimes.com/mountain-yam/.)		2010;Kumar *et al*., 2017)	
Elaeagnaceae							
Elaeagnus umbellata / Autumn Olive/ *Ghayain*	Jam, Dessert & Veg curry	Fr & Sd	1000- 3000 m (Sh)	One 100 g of Fr contains 69.4 g of moisture, 14.5 g of total soluble solids, 1.51 g of acids, 8.34 g of total sugars, 8.13 g of reducing sugars, 0.23 g of non-reducing sugars, and 12.04 mg of vitamin C.The percentage contents of some of the mineral elements, viz. P, K, Ca, Mg and Fe are 0.054, 0.346, 0.049, 0.033 and 0.007 in this order (Parmar and Kaushal, 1982)	Dry powered Lf and Fr are helpful in checking diarrhoea; 2 teaspoons twice daily for 3-4 days.The Fl are astringent, cardiac and stimulant. They are used in the treatment of coughs and pulmonary infections.	The seeds are used as a stimulant in the treatment of coughs. The expressed oil from the seeds is used in the treatment of pulmonary affections. The unripe fruit is astringent and is eaten in the treatment of bloody dysentery. (Chopra et al., 1956;Sood and Thakur, 2004;Pallab et al., 2016.)	Summer season
Euphorbiaceae							
Euphorbia hirta/Asthma weed/*Dudhi*	Veg, *Saag,*	Lf & St	900 m (H)	100 g of dried Ap shows 75.18 g moisture; 12.57 g protein, 36.59 g; fibre, 13.9 g carbohydrates, 3.67 g fat. Minerals content is Na,175.8 mg ; K,5536.27 mg ; Ca,116.94 mg ; Li,39.44 mg; N, 1981.32 mg; P, 241 .89 mg; S,1746.11 mg; Fe,82.82 mg; Cu, 2.60 mg; Mn, 8.71 mg; Zn,5.44 mg par 100g . Vit. C, 91.18mg; β-carotene 297.44 mg par 100g.The calorific value has been found to be 141 kcal. (Kundan Prasad, 2014)	Locally given against piles & asthma.	Antidote to snake bite, asthma, boils of mouth, kidney disease, pain in joints, veterinary. bone fracture, Extracts of E. hirta have been found to show anticancer activity decoction of dry herbs is used for skin diseases. (Chopra et a., 1956)	Can be harvested from early summer to early winter
Fabaceae							
Indigofera heterantha/ Indigo Bush/ *Kalli kathi*	*Kchru, Rayata*& Pickle	Fl	1000- 2800 m (Sh)	N/A	Powered Rt heals internal injuries, half teaspoon twice a day with cow milk for 5-8 days.	Plant is also considered useful for cough, muscular pains and urinary disorders in animal. Ap are anticance (Chopra et a., 1956);	flowers from rainy to pre winter season
Lathyrus aphaca/ Yellow	*Saag*& Veg	Ts, Pod&	**2200 m (Sh)**	The seed contains around 23.5% crude protein, 15.2%	The ripe Sd are believed	Powdered Sd are used to cure cough & diarrhoea. Sd	Summer to rainy season

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS),
Under the license CC BY- 4.0

vetching/ *Sudu*		Fl		fats & 34.6%. carbohydrates,(https://www.feedipedia.org/node/285)	to be antibacterial & narcotic..	are also used in the treatment of toothache.(Purohit et al., 2009)	
Lotus corniculatus/ Bird's Foot Trefoil/ *Peula ghaa*	Tea, Sambar,Poha &*Kachru*	Sd pod, dried Lf & Fl	900- 4000 m (H)	N/A	Externally plant is used as local anti-inflammatory compress in all cases of skin inflammation	Plant is carminative, febrifuge, hypoglycemic, restorative, vermifuge. The Fl are antispasmodic, cardio tonic and sedative. The Rt is carminative, febrifuge, restorative and tonic. (Scriber and Mark, 1978; Chiej, 1984)	Spring end to beginning of autumn
Senna occidentalis/ Coffee senna/ Badi *yelo*	Veg	Immature Pod	1500 m (Sh)	N/A	Taken as tomic tea	All parts of plant are said to posses almost similar tonic, diuretic, stomachic & febrifuge properties & are especially used for dropsy, rheumatism, fevers & venereal diseases. (Kirtikar & Basu, 1935)	Spring to autumn
Trifolium repens/ White Clover/ *Jangali parseen*	*Saag*& *Kachru*	Wp	2500- 3000 m (H)	Rich in protein, minerals (especially Ca, P and Mg) and soluble carbohydrates(https://www.feedipedia.org/node/245.))	Rich in protein and powdered Fl are taken as tonic .	An infusion of this plant has been used in the treatment of coughs, colds, fevers and leucorrhoea.It is also antirheumatic, antiscrophulatic, depurative, detergent A tincture of the leaves is applied as an ointment to gout. An infusion of the flowers has been used as an eyewash (Duke and Ayensu, 1985;Moerman, 1998)	Spring to autumn
Fumariaceae							
Fumaria indica/ Indian Fumitory/ *Pitpapra*	*Saag*, Cooling Drink,	Ap	1800 m (H)	N/ A	Folk uses Decoction of the plant to treat fever, half cup once every morning for 3-5 days.	Known to be used for body ache, diarrhea, fever, flue, indigestion, liver complaints, mouth ulcer and skin diseases and as an anthelmintic, aperient, blood purifier, diaphoretic, appetizer, laxative, cool drink and vegetable(Sood and Thakur , 2004; Nayar et al., 1956; Dhiman, 1976; Dury, 1978; Singh, 2018.)	Winter to early summers
Lamiaceae							
Lamium album/ White dead nettle/ *Ruksha*	Veg, *Paranth a, Rayat a*& Tea	Ap	1800- 3000 m (H)	100 g of fresh rukshaleaves contain about 6.5 g of protein, 76 mg of vit. C and an incredible 644 vit. A retinol,76 mg Ca, 34 mg P, 411 mg K, 23 mg Mg and 3.4 mg Fe (Grieve, 1998)	Plant is astringent and demulcent.	It is chiefly used as a uterine tonic, to arrest, intermenstrual bleeding and to reduce excessive menstrual flow. It is also a traditional treatment for abnormal vaginal discharge. The herb is sometimes taken to relieve painful periods. Its astringency helps diarrhea, and used externally, it can relieve hemorrhoids and varicose veins (Purohit *et al.*, 2009)	late spring to summer season
Lamium amplexicaule/ Henbit/ *Topnu*	Veg, *Kachru*,	Ap	1000- 3000 m (H)	N/ A	Tea from plant is febrifuge.	The plant is antirheumatic, diaphoretic, excitant, febrifuge, laxative and	Spring to autumn season

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS), Under the license CC BY- 4.0

ghaa	*Rayata*& tea					stimulant (Chopra et al., 1956;Duke and Ayensu, 1985)	
Mentha longifolia/ Lamb mint/*Jangli Pudina*	Masala Tea &*Chutney*	Ap	1200- 3000 m (H)	Serving Size (Fresh2 tbsp, 11.4 g Water 9.75 g, Energy 5 Kcal, Protein 0.38 g, Total Fat (lipid) 0.08 g, Ash 0.23 g, Carbohydrate 0.96 g, Total dietary Fiber 0.8 g, Minerals Ca, 23 mg, Fe, 1.35 mg, Mg, 7 mg, P, 7 mg, K, 52 mg, Na, 3 mg, Zn 0.12 mg, Cu, 0.027 mg, Mn, 0.127 mg, Vit\, B1 0.009 mg, Vit. B2. 0.02 mg, Vit. B3 0.108 mg, Vit. B5 0.029 mg, Vit. B6 0.018 mg, Vit. B9 12 µg, Vit. C, 1.5 mg (https://www.healthbenefitstimes.com/mint.)	Decoction is used to treat coughs, colds, asthma and other respiratory ailments like, headaches, fever, indigestion, flatulence etc.	Powered plant parts are useful in general eye diseases, half – one g twice a day for 8-10 days.The plant is astringent to the bowel, anthelmintic, useful in diseases ofthe heart, bronchitis, loss of appetite, diarrhea and dysentery(Kirtikar & Basu, 1935;Sood & Thakur, 2004)	Fl between September to November
Origanum vulgare/ Wild Marjoran/ Bantulsi	*Chutney, Kachru*& Masala Tea	Lf	1000- 3000 m (H)	Dried Lf per100 g is Energy, 265 Kcal; Carbohydrates, 68.92 g; Protein, 9 g; Total Fat, 4.28 g; Dietary Fiber, 42.5 g; B9, 237 µg;B3, 4.640 mg; B5, 0.921 mg; B6, 1.044 mg; B2, 0.528 mg, B1, 0.177 mg; Vit.-A, 1701 IU; Vit. C, 2.3 mg; Vit. E, 18.26 mg, Vit.-K, 621.7 µg; Na, 25 mg; K, 1260 mg; Ca, 1597 mg; Cu, 0.633 mg; Fe, 36.80 mg; Mg, 270 mg; Mn,4.990 mg; Zn, 2.69 mg; Carotene-ß, 1007 µg(. https://www.nutrition-and-you.com/oregano.html.)	Warm infusion of herb is given to promote-menstrual flow when suppressed by cold .	Plant is useful to settle flatulence and stimulates the flow of bile. Strongly antiseptic, it may be taken to treat respiratory conditions such as coughs, tonsillitis, bronchitis and asthma. Volatile oil obtained from plant is aromatic, stimulant, rubifacient and tonic; useful in colic, diarrhoea, hysteria, rheumatism and toothache. The diluted oil can applied to toothache or painful joints. Locally, the tablet made from leaves is administered orally in bone fractures. The paste of the Lf is applied in fire burns, eczematous skin, boils, cuts and wounds (Bown, 1995;Chauhan, 1999; Purohit et al., 2009; Singh, 2018)	Spring to summer
Prunella vulgaris/ Self-heal/ Neela ghoongru ghaa	*Saag, Siddu, Kachru or sosaru* , Soup & Refreshing summer drink	Wp	2600- 3000 m (H)	N/ A	Plant is helpful to treat dizziness due to hypertension; headache; tinnitus; conjunctivitis, dry cough, skin inflammation and boils.	Plant is an expectorant (used to get relief from cough) and antispasmodic (cure muscle spasm.The whole plant is alterative, antibacterial, antipyretic, antiseptic, antispasmodic, astringent, carminative, diuretic, febrifuge, hypotensive, stomachic, styptic (Stopbleeding),tonic, vermifuge and vulnerary (Launert, 1981; Grieve, 1984;)	Summers to autumn/
Salvia moorcroftiana / Kashmir Salvia/ *Shobri*	Veg & Soup	St	1000-2600 m (H)	N/A	Rt yields essential oil, used in cold & cough.	Lf are used against guinea-worm & are applied as poultics for boils, wounds & chronic affections of the skin. Sd are considered useful in hemorrhoids,	

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS), Under the license CC BY- 4.0

						dysentery & colic, & applied on boils (Purohit *et al*., 2009; Singh, 2018)	
Vitex negundo /Huang Ping/*Bana*	*Paranth a, Tea, Pakor as & kachru*	Tl, & Sd	1500 m (Sh)	N/A	Lf paste is used in treatment of painful joints, their poultice along with aerial tops of *Atremisia japonica* applied to rheumatic joint, and for spines	Lf, Rt and Fr are used in AYUSH medicines as an expectorant, febrifuge, tonic and vermifuge (Sood & Thakur, 2004; Singh, 2018.)	Autumn season/
Lauraceae							
Cinnamomum tamala/ Indian Cassia/*Meetha patta*	Masal a Tea/ Flavou ring agent in many traditi onal recipe s	Lf	2400 m (T)	100 g of Lf contains 43 mg of Fe, 8.167 mg of Mn, 1.74 mg of Vit. B6, 834 mg of Ca, 26.3 g of Total dietary Fiber, 74.97 g of Carbohydrate, 46.5 mg of Vit. C, 0.416 mg of Cu,180 µg of Vit. B9 and 3.7 mg of Zn (https://www.healthbenefits times.com/indian-bay-leaf)	Local people use decoction of Lf to get relief from headache. They also apply paste over forehead for this purpose. Lf paste is also used to get rid off body lice and strengthening of hairs. They consider leaf extract intake effective against nose bleeding and cough.	The essential oil of the Lf called oil is medicinally used as carminative, anti-flatulent, diuretic, and in cardiac disorders. "Ayurveda" describes the use of Lf used in the treatment of ailments such as anorexia, bladder disorders, dryness of mouth, coryza, diarrhoea, nausea and spermatorhea , It has hypoglycaemic and hypolipidemic properties (Kar *et al*., 2003; Showkat *et al*., 2004)	Lf and Br can be harvested round the year,
Lythraceae							
Punica grantatum/ Pomegranate/ *Daadu*	*Chutn ey*	Fr	2500 (Sh)	Serving Size: 1 Cup, 174 g Water 135.6 g, Energy 144 Kcal, Protein 2.91 g, Total Fat (lipid)2.04 g, Ash 0.92 g, Carbohydrate 32.54 g, Total dietary Fiber 7 g, Total Sugars 23.79 g, Ca, 17 mg, Fe, 0.52 mg, Mg, 21 mg, P, 63 mg, K, 411 mg, Na 5 mg, Zn,0.61 mg, Cu, 0.275 mg, Mn, 0.207 mg, Vit. B1, 0.117 mg, Vit. B2, 0.092 mg, Vit, B3,0.51 mg, Vit. B5, 0.656 mg, Vit, B6, 0.13 mg, Vit, B9, 66 µg (https://www.healthbenefits times.com/health-benefits-of-pomegranate.)	Local people make paste of Fr rind and apply on foot heel to cure cracks. A decoction of the Sd is used to treat syphilis.	Juice of the Fr is used to treat jaundice and diarrhea. The rind of the Fr is ground & taken every morning to get relief from diabetics. The Fr together with the juice of *Cynodon dactylon* Lf is used for runny noses and olds. The juice of the Fl is used to treat nose bleeds. The Fr pulp and the Sd are a stomachic. The Rt and the stem bark have astringent and anthelmintic properties. Sd juice considered useful as a cardiac tonic. Powdered Br used to expel worms from the body; 1 teaspoon once every morning for 3 days(Sood & Thakur, 2004; Purohit *et al*., 2009)	Fr from rainy season
Malvaceae							
	Puddi	Lf&	1200 m (H)	N/A	Local people	The Rt and Lf are bitter,	

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS), Under the license CC BY- 4.0

*Sida cordifoli**a***/Broom Jute/*Dridh*	*ngs, Rehdoo, Laddu, Kheer* & Tonic Tea from Lf	Sd			use Lf & Sd as a tonic by taking asa tea or cooking into vegetable.	sweet, emollient, cooling, aphrodisiac, unctuous, and vigour strengthening and promote sexual vigour and vital factor. They are good for rheumatism, flatulence, colic, haemothermia, and emaciation, vitiated conditions of tridosa, seminal weakness, arthritis and diarrhoea(Purohit *et al.*, 2009; Sood & Thakur, 2004)	
Menispermaceae							
Tinospora cordifolia/ Amrita/ *Gulje*	*Halwa, Sirra*	St, Rt & Br	1400 m (H)	100 g of St contain approximately 3.34 g carbohydrate, 2.30 g protein, 11.321 g fibre, 5.87 milligrams iron, 85.247 milligrams Ca, 303.7 microgram vitamin A, 56 milligrams vitamin C (https://www.boldsky.com/health/nutrition/2018/. ()	The St, Rt and whole plant are alterative, antidote, aphrodisiac, diuretic, febrifuge and tonic.	The starch obtained from the St and Rt of the plant is nutrient and is useful in the treatment of diarrhoea and dysentery.The fresh plant is more effective than the dried. Plant is also used to treat rheumatism, urinary disease, general debility, bronchitis and infertility. It is useful in vitiated conditions of vata, burning sensation, hyperdipsia, helminthiasis, dyspepsia, flatulence, stomachalgia, intermittent fevers, chronic fevers, inflammations, gout, vomitting, cardiac debility, skin diseases, leprosy, erysipelas, anaemia, cough, asthma, general debility, jaundice, seminal weakness, uropathy and splenopathy. Stem: Bitter, astringent, sweet, thermogenic, anodyne, anthelmintic, alterant, antiperoidic, antispasmodic, anti-inflammatory, antipyretic, antiemetic, digestive, carminative, appetise, stomachic, constipating, cardiotonic, depurative, heamatinic, expectorant, aphrodisiac, rejuvenating, galacto-purifier and tonic.(Gamble,1972;.Kapoor,2001;tropical.theferns.info/viewtropical.php?id=Tinospora+cordifolia)	Round the year
Moraceae							
Ficus hispida/ Hairy Fig/ *Debre*	Veg, Veg *curry*. *Paranths, kachuri*	Fr	1100 (T)	N/A	All parts are bitter, cooling, acrid; astringent to the bowels, anti-dicentric; useful "*Kapha*",	Fr is sweetish, cooling; aphrodisiac, tonic, lactagogue, emetic; causes "vata" & constipation. The The fruit, seed & bark are possessed of valuable emetic properties. ((Purohit et al., 2009)	

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS), Under the license CC BY- 4.0

					ulcers, biliousness, psoriasis, anaemia, piles, jaundice, haemorrhage of the nose & mouth diseases of the blood.		
Ficus palmate/ Wild fig/ *Fegra*	Veg	Fr	1550 m (T)	100g of Fr contains moisture,80.5% ; protein, 1.72g ; total soluble sugar, 12.5 g; pectin,0.21g; vit. C, 3.35 mg; ash, 0.92g; mineral,Ca 0.01g ;Mg,0.076 g. [Anonymous, 1985;Parmar, & Kaushal (1982	Fr act as demulcent and laxative.	They are mostly used as diet in case of constipation and in diseases of the lungs and bladder. They are also used as poultices. (Kirtikar & Basu, 1935;Karnick,et al.,1981; Shiksharthi& Mittal,2011)	
Ficus racemosa/Cluster fig tree/ *Umre*	Veg, *Parantha*, *Kachuri*& Pickle	Fr	1200 m (T)	100 g of Fr contains 81.9 g moisture, 1.3 g protein, 0.6 g total fat, 0.6 g ash, 0.21 g N and no carbohydrate. It covers 30.77% of Vitamin B2, 16.25% of Fe, 11.11% of Cu, 10.81% of K, 8.335 of Mg, 7.20% of Ca and 6.71% of P/ (https://www.healthbenefitstimes.com/cluster-figs)	Fr used for its antidiuretic effect. The Rt are popularly used for the treatment of hydrophobia, whereas, the Br has multiple actions.	It is used as a galactagogue and is helpful in gynaecological disorders. Fr are active against leprosy, menorrhagia, leucorrhoea, and blood disorders, burns, intestinal worms, dry cough, and urinary tract infections. Bronchitis, bowel syndrome, and piles are treated with its Lf , in the Unani System of Medicine. The Lf buds are effective against skin infection, and a decoction of the Lf is used in wound washing and healing. A decoction of the Br is given for the treatment of piles, ulcerative colitis, diarrhoea, and dysentery. It is also given in the treatment of diabetes and asthma. The latex is externally applied on wounds to decrease inflammation, pain, and promote its healing. It is used with sugar to reduce diarrhoea and dysentery, especially in children, and improves the sexual power in males. The Rt of the plant are used in dysentery, pectoral complications, and diabetes, and also applied in inflammatory glandular enlargement, mumps and hydrophobia(Joseph & Raj, 2011; Shiksharthi& Mittal,20112011)	Fr in April-July and tender leaves throughout the year
Ficus roxburghii/ Elephant ear fig tree/ *Taryambal*	Veg, Veg curry, *patrodu*, *Parant*	Fr	1700 m (T)	Ripe Fr contain 87.1 per cent moisture and 7.5 per cent total soluble solids. The total soluble solids of the sweet jelly-like substance, however, are 9.9	Powdered Fr are given to cure piles.	The latex from the St is applied to cuts and wounds and Fr are effective in the treatment of diarrhea and dysentery(Kirtikar & Basu, 1935;Karnick,et al.,1981;	

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS),
Under the license CC BY- 4.0

	ha & Kachuri			%. Sugars are 6.15%; the reducing sugars are 6.12 %; the non-reducing sugars are 0.03 % & pectin is 0.48 %t. The vitamin C 3.35 mg per 100 g The protein content of the fruit is 0.59 %. Total minerals are 1.068 per cent , as represented by its ash. P, K, Ca, Mg, & Fe is, 0.039, 0.331, 0.039, 0.045 and 0.003 (Parmar, & Kaushal (1982)		Shiksharthi& Mittal,2011)	
Moringaceae							
Moringa oleifera./ Drumstick/*Soonani/*	Veg, *Chutney*, *Kachru*, *Rayata*, *Shambar*	Fl, Sd, Rt, Fr, Fl	1000 (T)	100 g of raw leaf contain, energy, 64 kcal: carbohydrate, 8.28 g; dietary fiber, 2.0 g; fat. 1.40 g; protein, 9.40 g; vit. A, 378 µg; B1, 0.0530 mg; B2, 0.660 mg; B3, 0.60 mg; B5, 0.125 mg; Vit B6, 1.200 mg; B9, 51.7 mg; Vit, 51.7 mg.. \100 g of raw pods contains, Energy, 37 kcal: carbohydrates, 8.53 g; dietary fibre, 3.2 g; Fat. 0.20 g; protein, 2.10 g; vitamin A, 4 µg; B1, 0.257 mg; B2, 0.074mg;B3, 0.620 mg; B5, 0.794 mg; Vit B6, 1.120 mg; B9, 141 mg; Ca, 30mg; Fe.036mg;Mg, 45mg; Mn, 0.259 mg: P, 50; K, 46.1;Na, 42; Zn,0.45 mg (Dahot,1988)		Act as a cardiac/circulatory tonic, used as a laxative, abortifacient, treating rheumatism, inflammations, articular pains, lower back or kidney pain and constipation, Purgative, applied as poultice to sores, rubbed on the temples for headaches, used for piles, fevers, sore throat, bronchitis, eye and ear infections, scurvy and catarrh; leaf juice is believed to control glucose levels, applied to reduce glandular swelling Rubefacient, vesicant and used to cure eye diseases and for the treatment of delirious patients, prevent enlargement of the spleen and formation of tuberculous glands of the neck, to destroy tumours and to heal ulcers. (Kirtikar & Basu, 1935; Chopra et al., 1956;Dahot,1988.)	Lf: round the year. Fl & Fb : spring Fr: early summer 1. Lf = Rs. 70-80/ kg. 2,Sd =500/ kg
Myrtaceae							
Syzygium cumini/ Indian Blackberry/*Jaamun*	Jam, vinegar	Fr	1200 m (T)	Energy 251 kcal; water 84.75 g; fat 0.23g; Na, 28mg; K, 55 mg; carbohydrate 14 gm; dietary fibres 0.6 gm; sugar 57 gm; protein 0.995 gm; thiamine 0.01 mg; vit. C 11.85 mg; vit. B6 0.03 mg; Ca, 11.65 mg; Fe, 1.41mg; Mg, 35 mg; P, 15.6 mg & Na, 26.2 mg per 100 g of the fruit pulp (Komor & Devi, 2016)	Local people use Sd, tender Lf are used in diabetes, diarrhea. Powered Lf prescribed for headache; 1 tablespoon twice daily with cow milk. Br of tree are used as toothbrush by locals to clean their teeth. Decoction of Br is good for	The Br is astringent, sweet, sour, acrid, refrigerant, carminative, diuretic, digestive, anthelmintic, febrifuge, constipating, curing fever and dermatopathy. Fr have some of the highest levels of natural folic acid and recommended for pregnant women and bark to treat diabetes. The Lf are antibacterial and are used for strengthening the teeth and gums. (Purohit *et al*., 2009; Sood & Thakur, 2004)	Fr= summer end to rainy season

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS),
Under the license CC BY- 4.0

					removing kidney stones; 3 tablespoons thrice a day for 15-20 days.		
Oxalidaceae							
Oxalis corniculata/ Creeping woodsorrel/ *Malori*	*Chutney*, Veg & Refereshing summer drink	Lf& Fr	3000 m (H)	Lf contains 86% water, 2.3% protein, 0.8% fat, 8.2% carbohydrate, 150 mg Ca, 78 mg P, 8 mg Fe, 0.6 mg;B3, 78 mg vit. C, 6050 µg beta & 7 – 12% oxalate(Anonymous, 1985)	Plant is a rich source of vitamin C & is used in the treatment of scurvy. Powdered plant given to check vomiting & nausea. The infusion of plant is useful remedy for hookworms & leaves extract cure skin rashes.	Whole plant possesses various medicinal properties like anthelmintic, astringent, antiscorbutic, diuretic, stomachic, febrifuge & styptic (Bown, 1995)	Round the year /
Oxalis debilis var. corymbosa/ Lilac Oxalis/*Malora ghaa*	Veg, *Chutney*, Refreshing Summer Drink	Lf& Fl	1000 m (H)	N/A	Refreshing drink fron Lf is useful against cold.		Spring to pre-summers/
Oxalis latifolia/ Broadleaf woodsorrel / *Trikhada*	Veg, *Chutney*, *Kachru*& Refreshing Summer Drink	Lf, Fl	750- 1000 m (H)	N/A	Powered Ap of this plant &*Mentha piperita* given against headache &; cold,		Spring season to pre-winter
Phyllanthaceae							
Phyllanthus emblica/ Indian Gooseberry/ *Ambla*	Pickle, *Murabba*, *Jam*, *Bhale and Badiyan/*, *Ambla Candy*	Fr	1500 m (T)	100 g of raw fruits contains carbohydrates,10g; moisture, 86g; fats, 0.5g; protein,1g; gallic acid, 3012.5mg; Vit. C, 478 mg; E, 0.16mg; Ca, 25 mg; Fe, 0.9 mg; Mg,10 mg; P, 21 mg; K ,198mg; Na,13 mg; Zn, 0.12 mg; Cl, 25.6m(Santhi et al., 2007)	Local people use powdered Fr to check baldness and hair fall along with mustered oil heated in slow flame. Amla inhibit the growth and spread of different types of cancer like, breast, pancreases, liver, uterus,stomach and malignant as cites. It also reduces the	The Br is useful in gonorrhoea, diarrhoea and myalgia. The Lf are useful in conjunctivitis, inflammation, dyspepsia, diarrhoea and dysentery. The Fr are sour, astringent, bitter, acrid, sweet, cooling, anodyne, ophthalmic, carminative, digestive, stomachic, laxative, adulterant, alexiteric, aphrodisiac, diuretic, antipyretic, tonic. They are useful in vitiated conditions of tridosa; diabetes, cough, asthma, bronchitis, ulcer, skin diseases, leprosy, inflammations, anaemia, jaundice.(Purohit *et al.*, 2009)	Fr from pre winter to end of winter season

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS),
Under the license CC BY- 4.0

					side effect induced by chemotherapy and radiotherapy, which generally used for the treatment of cancerThe Rt Br k is astringent, and is useful in ulcerative stomatitis and gastrohelcosis		
Phytolaccaceae							
Phytolacca acinosa/ Himayan pokeberry/ *Jharka*	*Saag*	Lf& Ts	1800 m (H)	N/A	Local people use plant to get relief from body pain.	Pharmacologically the plant is accredited with antiasthmatic, antifungal, expectorant, antibacterial & laxative properties (Kritikar & Basu, 1953)	
Plantaginaceae							
Plantago lanceolata/Ribwort Plantain/*Safed Isbagol*	*Saag*& Pudding	Lf& Sd	1200- 2400 m (H)	100 g of Lf contains Water 86.2 g, Energy 28 Kcal Protein 1.72 g, Total Fat (lipid) 0.33 g, Ash 2.07 g, Carbohydrate 2.81 g, Total dietary Fiber 3.71 g, Insoluble Fiber 2.7 g, Total Sugars 1.06 g, Sucrose 0.112 g, Glucose (dextrose) 0.74 g, Fructose 0.211 g; Ca, 304 mg; Fe, 3.91 mg; Mg, 52.6 mg; P, 28 mg; K, 361 mg; Na, 21.3 mg; Zn, 0.548 mg; Cu, 0.159 mg; Mn, 0.661 mg; Vitamin C 13.6 mg, Oxalic acid 88 mg, Phenolics (total) 1109 mg, Hydroxycinnamic acids 509 mg, Flavonoids 49.6 mg, Anthocyanins 0.54 mg (https://www.healthbenefitstimes.com/narrow-leaf-plantain)	Local people Rt ext. and Sd to regulates kidney affections and urinary disorders.	In India it is known as an astringent, blood purifier, diuretic, homeostatic and purgative, and for asthma, cough, pulmonary diseases, wounds, sores and swellings (Chopra *et al*., 1956; Ambasta, 1986; Sood & Thakur, 2004)	Le= later winter to early spring season Sd= summer to autumn
Veronica agrestis / Field Speedwell/ kindu badyala	*Saag & Kachru*	Lf & Fl	1800 m (H)	N/A	A decoction of this plant is used in the treatment of dysmenorrhea and haemorrhages.	Tea made from this plant is used to clear sinus congestion, help eyesight and ease sore eyes (Duke and Ayensu, 1985)	Late winters to rainy season
Polygonaceae							
Fagopyrum dibotrys/ Perennial Buckwheat/	*Saag*, Veg, *Chuntey*,	Lf& Sd	1600- 3500 m (H)	100 g of Sdcontains: Energy 17%, Carbohydrates 55%, Protein 24%, Total Fat 17%, Dietary Fibre	Lf given to cattle cure indigestion and dysentery.	It stimulates blood The Wp is anodyne, anthelmintic, antiphlogistic, carminative, depurative and	Summer end to autumn season

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS), Under the license CC BY- 4.0

Kathu	*Babru or gulgule Kachru*,& Tea			26%, Vit.B9, 7.5%; NB3, 44%, B5, 25%, B2, 33%, B1, 8.5%, Minerals Ca 2%, Cu,122%, Fe, 27.5%, Mg 58%, Mn 56.5%, P 50 %, Se15%, Zn 22% www.naturalmedicinalherbs .net/herbs/f/fagopyrum		febrifuge.circulation. A decoction issued in the treatment of traumatic injuries, lumbago, menstrual irregularities, purulent infections, snake and insect bites. The Lf are rich in rutin which is a capillary tonic, antioedemic, anti-inflammatory, antispasmodic and hypotensive (Landy, 1977; Duke and Ayensu, 1985;)	
Fagopyrum esculentum/ Buckwheat/ Phaphra	*Saag*, Veg, *Chuntey*, *Babru* or *gulgule Kachru*, & Tea	Lf & Sd	2000- 3000 m (H)	Energy 343 Kcal, Carbohydrates,71.50 g; Protein ,13.25; total Fat, 3.40 g; Dietary Fiber, 10 g ; Vit. B9,30 µg; B3, 7.020 mg; B5,1.233 mg ;B2, 0.425 mg; B1, 0.101 mg; Na, 1 mg; K,460 mg; Minerals Ca, 18 mg; Cu, 1.100 mg; Fe, 2.20 mg; Mg, 231 mg; Mn,1.300 mg; P ,347 mg; Se, 8.3µg; Zn, ,2.40 mg; Lysine, 672 mg; Methionine,172 mg; Tryptophan, 192 m (https://www.nutrition-and-you.com/buckwheat.html.)	Used for a wide range of circulatory problems.	It is used particularly to treat fragile capillaries, but also helps strengthen varicose veins and hea1. Taken in combination with other herbs for high blood pressure.The Lf and shoots of flowering plants are acrid, astringent and vasodilator. A poultice made from the Sd has been used for restoring the flow of milk in nursing mothers. An infusion of the herb has been used in the treatment of acute infectious skin disease. A homeopathic remedy has been made from the leaves. It is used in the treatment of eczema and liver disorders (Grieve, 1984;Purohit et al., 2009; Sajid et al., 2015}	spring to summer/ Leaves= 30-40 Kg
Rumex acetosa/ Sorrel/*Mil-malori*	Veg, *Chutney*, *Kachru*& Summer Refreshing Drink	LF	2000 m (H)	29 calories, 0.9 g fat,4.3 g carbohydrates,2.7 g protein,3.9 g fiber, 63.8 g Vit. C,137 mg Mg, 266 mg vitamin A, 0.5 mg Mn, 0.2 mg Cu, 3.2 mg Fe, 519 mg P, 0.2 mg Vit. B6, 0.1 mg B2,84 mg P, 59 mg Ca, (https://draxe.com/nutrition/sorrel)	Cure asthma and bronchitis. The fresh or dried Lf are astringent, diuretic, laxative and refrigerant.	Cure fevers and are especially useful in the treatment of scurvy.An infusion of the Rt is astringent, diuretic and haemostatic. It has been used in the treatment of jaundice, gravel and kidney stones. Both the Rt and the Sd have been used to stem haemorrhages. A paste of Rt is applied to set dislocated bones. The plant is depurative and stomachic (Holtom. and Hylton, 1979; Bown, 1995; Tsarong, 1994)	Summer end to autumn
Rhamnaceae							
Ziziphus mauritiana/ Indian Jujube/ *Baer*	*Badiyan*,*Kachru*& alcoholic Drink	Fr	1800 m (Sh)	100 g of Fr contain: Carbohydrates, 17 gm; Protein, 0.8 gm; Fat,0.07 gm; Sugar, 10.5 gm; Ca, 6 mg; P, 6 mg; Fe, 0.15 mg; K, 70 mg; Na,1 mg; Zn-0.01 mg; Mg, 3 mg; Vit A, 0.021 mg; B1, 0.024 mg; B2, 0.038 mg; B3, 0.087 mg; Citric Acid, 1.1 mg; Vit C, 75 mg (www.epainassist.com/articl	The Rt are bitter, cooling tonic & are useful in vitiated conditions of pitta, fever, wounds & ulcers.	Fr are sweet, cooling, purgative, mucilaginous, pectoral, styptic, aphrodisiac, invigorating, depurative, appetizer & toni/ (Purohit *et al*., 2009)	Fr= winter end to spring Lf= pre-spring to start of autumn

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS), Under the license CC BY- 4.0

				es/health-benefits-of-jujube-fruit-or-ber-or-ziziphus-mauritiana.)			
Rosaceae							
Duchesnea indica / Mock Strawberry/ Bhuin ankhe	Desserts, smoothies, puddings, *rayata*, Veg, *Kachru*, *Paranth*a, Refreshing Summer Drink	Fr,Lf & Fl	2400 m (H)	Fr contain 58.7 per cent extractable juice and 77.4 per cent moisture. They also contain 6.2 g of total soluble solids, 0.67 g acidity, 3.40 g of total sugars, 1.78 g of reducing sugars and 1.54 g of non-reducing sugars per 100 ml of the juice. Almost a negligible quantity of tannins was found in this fruit. The vit C content of the fruit is 6.29 mg per 100 ml of the juice (Parmar and Kaushal, 1982)		The Wp is anticoagulant, antiseptic, depurative and febrifuge (Duke and Ayensu, 1985; Stuart and Rev, 1911;)	Spring to late summers
Fragaria vesca/Woods strawberry/ Bhoomphal	Veg, Dessert, *Kachru* & Refreshing Summer Drink	Fr, Rt & Lf	1000- 3500 m (H)	The fruits contain water, 87-88; sugars 3.0-4.5; free acids, 1.33-1.65; and ash0.6-0.7 per cent (Parmar and Kaushal, 1982)	Fr are an excellent food to take when feverish	Effective in treating rheumatic gout (Grieve, 1984).	Lf from spring season to winters and edible Fr from rainy season to autumn
Rosa macrophylla/ Wild Rose/ *Jangali gulab*	Jam, refreshing summer drink, *Kachru*&*Gulkand*	Fr & Fl	2000- 3500 m (Sh)	Rich source of vitamins and minerals, especially in vit. A, C and E. (Rani, et al.,2013)	Good for skin and eyesight.		Fl and Fr from month of June to August
Rubus ellipticus/ Golden Evergreen Raspberry/ *Akhe*	Fr desserts, smoothie	Fr	2300 m (Sh)	The Fr contains about 10.9% sugars, 1.1% protein, 0.5% ash, 0.55 pectin . The Fr is a good source of micronutrients such as anthocyanin's, phenols, flavonoids and vit. C. They have a moderate to good antioxidant activity and make an excellent, healthful addition to the diet (Parmar and Kaushal, 1982)	Decoction of Rt good for cough; 2 tablespoons twice a daily till relief.	The juice of the Rt is used in the treatment of fevers, gastric troubles, diarrhoea and dysentery. The juice of the Fr is used in the treatment of fever, colic, coughs and sore throat.(Ambasta, 1986; Jain & Farrokhnia,1991;Tsarong 1994Manandhar,2002; Sood & Thakur, 2004)	Fr from spring beginning to summer
Rubus niveus/ Ceylon Raspberry/ *Kali – Akhe*	Smoothie &desserts	Fr	1000- 2800 m (Sh)	The Fr contains about 7.8% sugars, 0.13% protein, 0.77% ash, mineral elements, viz. P, K,, Ca, Mg and Fe are 0.04, 0.237, 0.058, 0.068 and 0.007 per cent respectively. 100 ml of juice contain 3.79 mg of vit.(Parmar and Kaushal, 1982)		The Lf are used as a tonic for older people. (Patel *et al*., 2004; Karuppusamy *et al*., 2011)	early spring to summer end
Rubiaceae							

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS),
Under the license CC BY- 4.0

Galium aparin / Goosegrass/ Kuri	Veg, *Chutney*, *Kachru*, Tea, Coffee & Laddu	Lf & Sd	3000 m (H)	N/ A	Locally it is considered a blood cleanser, good for tightening the skin and reducing sign of aging.	Herb is dried and pulverized for use in cough and urinary disorders; 1-3 g twice a day for 5-7 days. So, far it is known in India as an aperient, diuretic, refrigerant and antiscorbutic, and as a substitute for coffee. The juice and the infusion are also taken for kidney stones and other urinary problem (Ambasta, 1986;Sood and Thakur, 2004; Purohit et al., 2009)	Late winter to spring season
Rutaceae							
Aegle marmelos/ *Bill Patri* ,	Fruit Jam, *Murabba*, Pickle, Refreshing Summer Drink, *Kachru* Halwa	Fr& Lf	900 (Sh)	100 g of Fr contains: Energy, 137 cal, Moisture, 61g; Protein, 2g; Mineral, 2g; Fiber. 3g; Carbohydrate, 32g; Ca, 85m; P: 50 g; Fe: 1 mg [https://www.epainassist.com/diet-and-nutrition)	The Lf are astringent, laxative, febrifuge & expectorant,	The ripe Fr are astringent, sweet, aromatic, cooling, febrifuge, laxative & tonic, & are good for the heart & brain. Local people mainly used this plant medicinally to treat diabetes (Purohit *et al*., 2009)	
Citrus aurantium var. Khatta/Gambhru khatta.	*Chach a*, & Pickle	Fr	2500 (Sh)	NA	Cure cold and cough.		
Citrus jambhiri /Rough Lemon/*Jhamirdi*	*Chutney*, pickle &*Kachru*	Fr& Fl	1200 m (Sh)	N/A	Fr rich in vitamin C which helps the body to fight off infections and also to prevent or treat scurvy.	Its juice is considered best to manage high cholesterol. Fr juice is also a very effective bactericide. Fr are considered helpful to cure cold (Parmar and Kaushal, 1982)	Fr =winters Fl= rainy to autumn
Citrus pseudolimon/ Hill lemon/ *Galgal*	*Chach a, Chuk*h & Pickle	Fr	3000 m (T)	N/A	Fr juice is used to cure cold.		Fr= winter
Murraya koenigii/ Curry Leaf/ *Gandhelu*	Sambar, Veg curry, *Chutney*& Jam	Ts&Fr	1500 m (Sh)	100 g of leaves contains; energy,108 Kcal; protein, 6.1 gm; fiber, 6.4 gm; fat, 1.0 gm; P, 57 mg; Ca, 830 mg; Cu,0.1 mg; Fe, 0.930 mg; Mg, 44 mg; Zn, 0.20 mg; Mn, 0.150 mg; Cr, 0.006 mg;VitaminB1, 0.080 mg; A, 7560 µg; B2, 0.210 mg; B3, 2.300 mg; Vit.. C, 4 mg; Folic Acid (Free), 23.5 µg; Folic Acid (Total),93.900 µg (Parmar and Kaushal, 1982)	The Lf, Br & Rt are used as a tonic & stomachic.	LF are effective in treating anxiety & depression. The Br & Rt are used as a stimulant by the physicians. Used externally to cure eruptions & the bites of poisonous animals. (Kritikar & Basu, 1935)	Leaves= 100 g earn 30 to 50 Rs for them
Zanthoxylum armatum/ Winged prickly ash/ *Tirmire*	*Chutney*, *Patrodu*& Sd soup	Lf & Fr	2000 m (Sh)	N/A	St used as toothbrush	Fr, Br & Sd are used as antihelmintic, stomachic, tonic & in curing various common ailments such as toothache, common cold,	Fr= summers to autumn Le= Throughout

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS), Under the license CC BY- 4.0

						cough, & fever.(Kritikar & Basu, 1935)	the year
Schizophyllaceae							
Schizophyllum commune/ Split gill fungus/ *Khookh*	Veg, *Pulao* & Soup	Fruiting Body	Fruiting Body	N/A	Polysaccharides shows considerable anti-cancer activity.	Polysaccharides and phenolic compounds present in this mushroom express antioxidant properties. It shows curative properties against bacteria and fungi infections and thus they can be used as potential antimicrobial agents (Mirfat *et al*., 2014)	Rainy season to pre winter period
Salicaceae							
Flacourtia sapida / Governor's Plum/ Kangu	Jams, preserves, jellies, desserts &*Kachru*	Fr &Lf	1400 m (Sh)	The pulpy Fr contains 62.1 per cent moisture in it. The total soluble solids content is 16.5 per cent. Total sugars are 13.92 per cent, mostly in the form of reducing sugars. The Fr contains 0.64 per cent pectin and 10.74 mg of vit. C per 100 g of fruit and a negligible quantity of tannin. The content of total minerals of the Fr as represented by ash, is 2.761 per cent. The protein content of the Fr is 0.79 per cent. In this Fr, the mineral elements, viz. P, K, Ca, Mg and Fe, are 0.055, 0.454, 0.068, 0.059 and 0.005 per cent respectively (Parmar and Kaushal, 1982)	Fr are sweet, appetizer, digestive and diuretic,	Fr useful in strangury, jaundice. and gastropathy. carbuncle, eczema, facilitating child birth, fever, (Jain, 1991; Purohit et al, 2009; Singh, 2018)	Summer season
Urticaceae							
Urtica dioica/ Stinging nettle/ *Koogas*	Saag, *Chutney* &*Kachru*	Lf & Ts	3000 m (H)	Lf contain approximately 82.4% water, 17.6% dry matter, 5.5% protein, 0.7 to 3.3% fat, and 7.1% carbohydrates.Vit. A and C**,** Minerals (Ca, K, Mg, P, Si, S, Cl) and trace elements (Mn, Cu, Fe) contents depend mostly on the soil and the season [94][95](Pradhan et al., 2015; Ruttoet al.,2013)	The Rt is diuretic.It has been found useful for nephritic troubles, in haemorrages- especially from the kidneys or uterus, consumption and jaundice. Having warming effect on body it is taken in winters.	Tea and Nettle tincture are curative of feverish gout as well as of intermittent fever and ague. Either remedy will promote a speedy extrication of gravel through the Kidneys. The fresh juice in doses of from 1 to 2 table spoonfuls is a most serviceable remedy for all sots of bleeding, whether from the nose, the lungs, or some internal organ. Also the decoction of the leaves and stalks taken moderate quanties is capital for many of the minor skin maladies(Kritikar & Basu, 1935;)	Lf: Round the year
Urtica parviflora/ Stinging nettle/ *Koogas*	*Saag* or lapsy *Kachr*	Lf & Ts	3700 m (H)	N/A	Rt are employed for the treatment of fractures &	Lf, & inflorescence are prescribed as tonic & as a cleaning agent after parturition. A decoction of	Lf: Round the year,

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS),
Under the license CC BY- 4.0

	u Chutney, Tea				dislocations.	this herb is given in fevers(Kritikar & Basu, 1935; Chopra, et al., 1956; Grieve,1984l Duke &Ayensu; 1985.)	
Violaceae							
Viola pilosa/ Smooth-Leaf White/ *Banfsa*	Masala Tea &*Kachru*	Lf, Fl buds and Fl	900- 3000 m (H)		Decoction of Lf,St & Fl is widely used by local people to cures cough, cold, chest infection. and lung diseases.	Decoction of Rt is good for vaginal discharge. Recorded in India as an antipyretic, diaphoretic, demulcent, emetic, emollient, febrifuge and purgative, and for biliousness, (Sood & Thakur, 2004; Purohit et al., 2009; Singh, 2018)	Fr from pre spring to mid summer/ dried Fl Rs 25,000/kg
Zingiberaceae							
Curcuma aromatic /Wild Turmeric/*Van haldi*	*Halwa* & Haldi	Rh	1000 m (H)	N/A	Rh are bitter, carminative, appetizer and tonic.	The plant contain strong antibiotic properties. These are used in combination with astringent and aromatics for bruises, sprains, and hiccough, bronchitis, cough, leukoderma, skin eruptions snakebite and antibiotic (Bown, 1995; Chopra, et al., 1956;Purohit et al., 2009;http://www.flowersofindia.net/; Devi et al., 2014.)	Summer end to spring season /
Hedychium coronarium/ Butterfly Ginger/ *Safed – Banadark*	*Kachru*, *Pakoras*, *Pakora curry*, Pickle &*Rayata*	Fl buds &Fl	2500 m (H)	N/A	The ground Rh is used to cure fever. .	Anti-cancerous, antioxidant, anti-microbial, anti-fungal, antihypertensive etc Essential oil from rhizomes is used in the treatment of body aches, cold, contusion, diabetes, headache, inflammation,(Duke & Ayensu, 1985; Endringera et al., 2014)	Fl= Autumn - winters
Hedychium spicatum / Kapoor Kachri/ *Shoyee*	*Kachru or sosaru*, Pickle & Masala tea	Rh. Fl &,Fl buds	1200-3000 m (H)	N/A	Powered rootstock is expectorant, febrifuge and tonic,	Ayurveda it is used against bowl complaints, vomiting, fever, diarrhea, bronchitis and rheumatic swellings. Cure nausea, bronchial asthma. diminished appetite, hiccups.(Bown, 1995;Sood and Thakur, 2004; Purohit et al., 2009;Singh, 2018.)	Pre- winter to spring season

Abbrevation: Fl= Flower, Le= Leaves, Bu= Bulb, Bl= Bulbils, Sd= Seeds, Ts= Tender shoot, St= Stem, Lf= Leaf, Rt= Root, Bd= Bulb, Tu= Tuber, Po= Pods, Rh= Rhozome, Hb= Herb, Sh= Shrub, T= Tree.Vit.=Vitamin.

2. To know about the medicinal and nutritive value of wild food plants useful in boosting immunity, fight COVID-19 and future challenges like COVID-19.

Ninety five plants documented in this study are either rich in antioxidants, used as tonic or are medicinally rich to cure cold, cough, fever and bronchitis symptoms similar to

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS), Under the license CC BY- 4.0

COVID-19. These plants are important ingredients of many traditional and modern medicine, which are used to cure a variety of ailments from time immortal. Almost comparable findings were reported by other workers. (Dutt, 2013; Sharma, et al., 2017; Patil& Kakde, 2020) and Babich, et al., 2020).

Some of these wild food plants like *Achyranthes aspera, Berberis lyceum, Euphorbia hirta, Kalanchoe pinnata, Centella asiatica, Moringa oleifera, Taraxacum officinale, Oxalis sp, Indigofera spp., Rumex spp, and Tinospora cordifolia* are usually eaten as a food supplement to harness their rich medicinal and food values in spite of their unpleasant taste. Plants like *Urtica spp., Galium aparin, Fagopyrum spp.Phyllanthus emblica, Angelica glauca, Terminalia spp. Origanum vulgare, Cinnamomum tamala, Ficus racemosa, Oxalix* spp. *Citrus* spp, *Asparagus spp.Kalanchoe pinnata, Hedychium spp. Phytolacca acinosa a*nd *Curcuma aromatic*etc. are known for their rich nutritive value and are excellent source of antioxidants like Vitamin A, C and minerals like Zn, Mg, Mn etc. so are traditionally used to boost immunity and treat wide range of aliment along with bronchitis, fever, cold & cough (Fig.5 &Table.2).

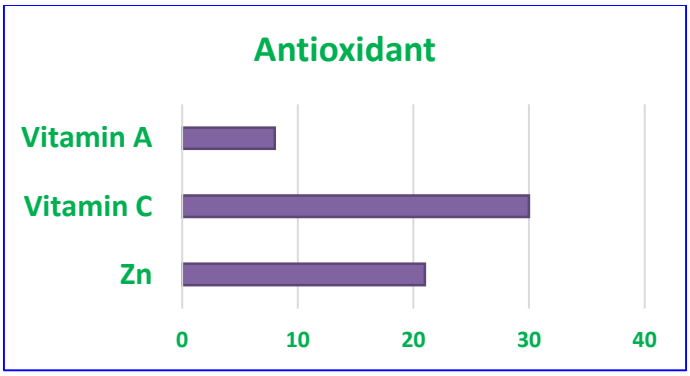

Fig. 4.Diversity of wild food plants rich in antioxident and helpful to boost immunity.

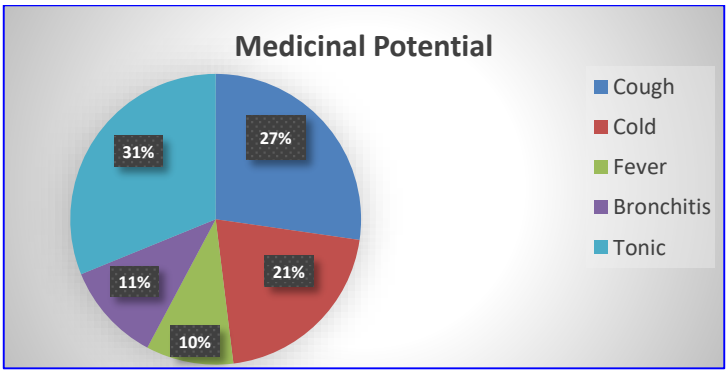

Fig. 5. Medicinal potential of wild food plants to fight and avoid COVID -19 symptom.

3. To know the traditional method of involving these plants in our day-to-day life and latest methods of their use as a food and food supplement with a modern twist.

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS), Under the license CC BY- 4.0

Many food plants like *Dioscorea spp, Ficus spp. Morchella esculenta* and *Fagopyrum spp.* are known as seasonal delicacies and eaten for their unique flavour or taste. Some of these like *Ficus spp. Dioscorea spp* and *Morchella esculenta* have their traditional recipes and a few like *Ficus spp are* usually prepared with some acidulent. These food items are liked by all. Therefore, they are in high demand and fetch high market prices in the local, national and international market. Wild food plants like *Cirsium arvense* and *Urtica spp.* appears poisonous and are harmful due to the presence of spines or pickers, so special care has to be taken during their harvesting and cooking. For many people these are non-edible and very few might know that these can be cooked into delicious dishes.

Wild food plants like *Oxalis spp, Indigofera spp., Rumex spp, Rosa spp., Hedychium spicatum* are excellent addition to *pakoras, rayata, Kachru, chutney*, masala oats and many other traditional dishes. Some of wild food plants like *Angelica glauca, Allium ampeloprasum,Cinnamomum tamala, Cyclospermum leptophyllum, Origanum vulgare* are used as spices and flavouring agents in various traditional dishes (Thakur, 2020). Addition of these nutritionally important medicinal wild food plants in tempting traditional food preparation like *kachru, poha, soups, masala oats, kachuri, Potato fingers, kachuri, kheer, pakoras, bhale* will be an excellent way to make kids of ruling era (who are generally very choosy for their meal) to eat what we want them to intake to boost their immunity and face ongoing challenges of pollution, stress, depression and pandemic like COVID-19 (Fig.6 & Table.2).

<table>
<tr>
<td> 
 
Urtica dioica maggi soup & Paneer</td>
<td> 
 
AAchyranthes aspera Sd kheer& Lf in Kachru</td>
<td> 
 
Centella asiaticacurry &Refreshing summer drink</td>
<td> 
 
Kalanchoe pinnata in Potato fingers & kachru.</td>
</tr>
<tr>
<td>  </td>
<td>  </td>
<td>  </td>
<td>  </td>
</tr>
</table>

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS), Under the license CC BY- 4.0

 *Galium aparin*Sd *laddu*	 *Amaranthus spinosus*Sd oats &*masala oats*	 *Morchella esculenta Dum*	 *Oxalis* spp. Lf as garnishing agent in *rayata,Chutney*&summer refreshing drink
  *Tinospora cordifolia*/ St & Rt starch extract s*irra*	  *Drymaria cordata* Lf *pakoras* and *pakora curry*	  *Rumex acetosa* Lf *kachru*& *Chutney*	   *Rosa macrophylla*/ Fl gulkand, kachru and garnishing over sweets

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS),
Under the license CC BY- 4.0

Moringa oleifera chutney

Phyllanthus emblica Fr *badiyan* & *Jam*

*Zanthoxylum armatum*Sd *maggi* soup & Lf in *chutney.*

Ficus roxburghii Fr veg,**Kachuri& Lf patrodu taken as snack.**

Dioscorea pentaphylla Tu *siddu*&Veg

Berberis lycium/ Fl *kachru&rayata*

Lamium album rayata& *poha*

Hedychium coronarium/ Fl *kachru*

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS),
Under the license CC BY- 4.0

Punica grantatum/ Sd & Fl *Chutney*

Murraya koenigii/ Lf in sambar

Citrus pseudolimon/*Chhachha*, chookh & pickle

*Duchesnea indica*Fr *rayata* & Lf *in Parantha*

Fig. 6. Some traditional recipes with modern twist

Wild food plants like *Achyranthes aspera*, *Amaranthus spinosus* and *Trifolium repens* are considered emergency food and are eaten at the time of food scarcity. It is believed that *kheer* made from seeds of *Achyranthes aspera* (*Puthkanda*), if eaten one will not feel hungry for five days. Wild edible plants like *Angelica glauca*, *Berberis lycium*, *Terminalia chebula*, and *Ziziphus mauritiana* are used in the preparation of alcoholic drinks for local personal uses (Thakur, 2020).

Most of the herbaceous food plants are cooked as a leafy vegetable *saag* traditionally and local people used to prepare *saag* from more than seventy herbs. This is used to be a scientific practice of involving most of the medicinal herbs in small quantities to avoid their unpleasant taste and any adverse effect that might be due to their excessive use. But with the passage of time, this practice is losing ground and need to be revitalize (Fig.6 & Table.2)..

4. Conclusion and Suggestion

Industrialization, urbanization and modernization for the last few decades has drastically changed our lifestyle, food habits and working schedule. As a result, we are not as resistant to diseases as our ancestors used to be. Therefore, there is a need to incorporate the medicinal plants presented in this study which are rich in Vitamin A,C, Zn, Mg and other antioxidant into our day-to-day lives with some modern twist for boosting immunity. Traditional knowledge of using wild plants as a source of food, vegetable and medicine has

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS),
Under the license CC BY- 4.0

declined in recent few years and is at the verge of extinction among young people who are more prone to adverse situations like COVID-19, pollution and other lifestyle diseases. Hence, it is important to document traditional knowledge related to wild edible medicinal plants which can be included with some modern twist in our food plate.The list of nutritionally important medicinal wild food plants that grow in the Western Himalayas andhelpful toensure food security, overcome hunger crisis and support the body during the pandemic is yet to be completed. As wild-growing food plants are free from chemical fertilizers, pesticides and insecticides and rich in medicinal and nutritive values, they can play an important role in boosting our immunity, fighting COVID-19, and other future challenges like COVID-19. They can also act also be useful in fighting other lifestyle diseases, such as depression, thyroid, obesity, diabetes, blood pressure, etc. Therefore, it is important to include all the important herbs in small quantity as a food supplement in recipes with some modern twist like *meggi, poha, chilla,* sandwitch, momoe's etc, which are highly favoured by young generation.By utilizing these plants we can make our present and future generation happy, healthy and strong. It is, therefore, recommended that wild food plants need to be involved in day-to-day life with some modern twist in recipes. There should be awareness among inhabitants for sustainable use and harvesting of wild food plants. It is also recommended to promote wild items recipes in hotels and restaurants run by the government and private entrepreneurs.

Acknowledgements

The author is highly indebted to the inhabitants of Himachal Pradesh for providing valuable information about wild food plants locally used as a tonic and helps to cure old.fever,cough and bronchitis Sincere thanks also go to Dr S.S. Samant, Dr. Chiranjit Parmar, Dr, Sanjeet Singh, Bhavana Bhardwaj, an official of district statistical department, botany department of Sardar VallabhbhaiCluster University Mandi for their encouragement, support and cooperation.The author is also highly thankful to DEST Himachal Pradesh for providing funds to carry on this research.

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS),
Under the license CC BY- 4.0

Conflict of Interest

None

Funding:

DEST Himachal Pradesh

References

Abdel E. Ghaly et al. (2012). Nutrient Composition of Dandelions and its Potential as Human Food. *American Journal of Biochemistry and Biotechnology*. 8 *(2),* 118-127

Ambasta, S. S. (1986). The useful plants of India (p. 650). CSIR, New Delhi, India: Publications & Information Directorate.

Anonymous, (1985). Wealth of India: Raw Materials, Vol I, CSIR., New Delhi.

Arayne, M. S., Sultana, N., Mirza, A. Z., Zuberi, M. H., & Siddiqui, F. A. (2007). In vitro hypoglycemic activity of methanolic extract of some indigenous plants. *Pak J Pharm Sci*, 20(4), 268-273.

Asamenew, G., Tadesse, S., Asres, K., Mazumder, A., & Bucar, F. (2008). A study on the composition, antimicrobial and antioxidant activities of the leaf essential oil of Apium leptophylum (Pers.) Benth. growing in Ethiopia. *Ethiopian Pharmaceutical Journal*, 26(2).

Babich, O., Sukhikh, S., Prosekov, A., Asyakina, L., & Ivanova, S. (2020). Medicinal Plants to Strengthen Immunity during a Pandemic. Pharmaceuticals, 13(10), 313.

Badgujar, S. B., Patel, V. V., & Bandivdekar, A. H. (2014). Foeniculum vulgare Mill: a review of its botany, phytochemistry, pharmacology, contemporary application, and toxicology. *BioMed research international*, 2014.

Barua, C. C., Bora, M., Saikia, B. N., Hazarika, M., Misri, J., & Chandrabarua, I. (2015). Nutritional evaluation of few selected medicinal plants of north eastern region. *Int. J. Pharm. Biosci*, 6, 538-546..

Basumatary, S., & Narzary, H. (2017). Nutritional value, phytochemicals and antioxidant property of six wild edible plants consumed by the Bodos of North-East India. *Mediterranean Journal of Nutrition and Metabolism*, 10*(3*), 259-271.

Bhalla, D. K., & Owen, R. L. (1982); Cell renewal and migration in lymphoid follicles of Peyer's patches and cecum—an autoradiographic study in mice. *Gastroenterology*, 82(2), 232-242.

Bhat, J. A., Kumar, M., & Bussmann, R. W. (2013): Ecological status and traditional knowledge of medicinal plants in Kedarnath Wildlife Sanctuary of Garhwal Himalaya, India. *Journal of Ethnobiology and Ethnomedicine*, 9(1), 1.

Bown. D.(1995): Encyclopaedia of Herbs and their Uses. Dorling Kindersley, London. ISBN 0-7513-020-31! 238

Burkill, H. M. (1995). The useful plants of west tropical Africa, Vols. 1-3. *The useful plants of west tropical Africa*, Vols. 1-3., (2. ed.).

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS), Under the license CC BY- 4.0

Buruleanu, L. C., Radulescu, C., Georgescu, A. A., Danet, F. A., Olteanu, R. L., Nicolescu, C. M., & Dulama, I. D. (2018). Statistical characterization of the phytochemical characteristics of edible mushroom extracts. Analytical Letters, 51(7), 1039-1059.

Chatterjee, A., & Pakrashi, S. C. (1997). The Treaties on Indian medicinal plants, volume-3. National Institute of Science Communication (CSIR), New Delhi, 16.

Chauhan, N. S. (1999). Medicinal and aromatic plants of Himachal Pradesh. Indus publishing.

Chiej. R. (1984). Encyclopaedia of Medicinal Plants. ISBN;0-356-10541-5.

Chopra. R. N., Nayar. S. L. and Chopra. I. C (1982): Glossary of Indian Medicinal Plants. Council of Scientific and Industrial Research, New Delhi.

Chowdhary, H. J., & Wadhwa, B. M. (1984): Flora of Himachal Pradesh Analysis. Vol. I. Botanical Survey of India, Calcutta.

Collett, H. (1902): Flora Simlensis.Thacker Spink & Co Calcutta and Simla, Reprinted 1971. Bishen Singh Mahendra Pal Singh, Dehradun.

Dahot MU. (1988); Vitamin contents of flowers and seeds of Moringa oleifera. Pak J Biochem 21: 1–24Lam. Bulletin of Medico-Ethno-Botanical Research 17: 141–151.

Devi T, Sen V. (2020): "Role of Wild Food Plants in Culinary Tourism Development of District Mandi Himachal Pradesh," International Journal of Scientific Research in Biological Sciences, Vol.7, Issue.6, pp.14-38.

Devi, N. B., Singh, P. K., & Das, A. K. (2014). Ethnomedicinal utilization of Zingiberaceae in the valley districts of Manipur. J. Environ. Sci. Toxicol. Food Technol, 8(2), 21-23.

Devi, T. (2020). Traditional use and role of wild edible fern Diplazium esculentum and Pteridium aquilinum in socio-economic development of District Mandi of Himachal Pradesh, North Western Himalaya, International Journal of Scientific Research in Biological Sciences, Vol.7, Issue.6, pp.44-50, 2020.

Dhaliwal, D.S. & Sharma, M,(1999): Flora of Kullu District (Himachal Pradesh) Bishen Singh Mahendra Pal Singh, Dehradun.

Dhiman, D. R. (1976). Himachal Pradesh Ki Vanoshdhiya Sampada.

Duke JA, Ayensu ES.(1985) Medicinal plants of China. Reference Publications.

Dury, G. H. (1978). The future of geomorphology. na.

Dutt, S. B. (2013). PA02. 10. A review on immunomodulator activity of some indiginious medical plants. Ancient Science of Life, 32(Suppl 2), S55.

Endringera DC, Taveira FSN, Kondratyuk TP, Pezzuto JM and Braga FC (2014). Cancer chemoprevention activity of labdane diterpenes from rhizomes of Hedychium coronarium. Rev. Bras. Farmacogn., 24(4);4. 08-412

Fernandes, Â., Oliveira, M. B. P., Martins, A., & Ferreira, I. C. (2012). Add-value of Lactarius deliciosus and Macrolepiota procera wild mushrooms due to their nutritional and nutraceutical potential. In International Congress on Pormotion of Traditional Food Products, 3 a 5 de Maio de 2012

Flyman, M.V. and Anthony, J.A. (2007). Proximate and mineral composition of the leaves of Momordica balsamina L.: an underutilized wild vegetable in Botswana. Int. J. Food Sci. Nutr., 58(6), 419-423.

Gamble. J. S. (1972). A Manual of Indian Timbers. Bishen Singh Mahendra Pal Singh.

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS), Under the license CC BY- 4.0

Gills, L.S. (1992) Ethnomedical Uses of Plants in Nigeria. Uniben Press: Edo State Nigeria, p. 12

Gills, L.S. (1992). *Ethnomedical Uses of Plants in Nigeria*. Uniben Press: Edo State Nigeria,

Grieve, M. (1984). Tansy. A Modern Herbal. Penguin Books Ltd, Middlesex, Great Britain, 789-790.

Gulfraz M, Arshad M, Nayyer N, Kanwal N, Nisar U (2004). Investigation for bioactive compounds of Berberis lyceum Royle and Justicia adhatoda L. Ethnobot. Leaflets 1:51-62.

Hardel DK, Das AK, Bhanja S. (2012). A comparison study of fluorescence characteristics of powder of Haritaki: Terminalia chebula (pericarp), Yavani: Trachyspermum ammi (fruit), Ajmoda: Apium leptophyllum (fruit), Sunthi: Zingiber officinale (rhizome) Int Res J Pharm, 3:255–7.

Hassan, L.G. and Umar, K.J. (2006). Nutritional value of balsam apple (Momordica balsamina L.) leaves. Pak. J. Nut., 5(6), 522- 529.

Holtom. J. and Hylton. W. (1979). Complete Guide to Herbs. Rodale Press Publication. ISBN; 0-87857-262-7.

Jain, S. K. (1991). Dictionary of Indian folk medicine and ethnobotany. Deep publications.

Joseph B, Raj SJ (2010). Phytopharmacological and phytochemical properties of three ficus species-an overview. Int J Pharma Bio Sci ;1:246-53.

Joseph, B., & Raj, S. J. (2010). Phytopharmacological and phytochemical properties of three Ficus species-an overview. *Int J Pharma Bio Sci*, 1(4), 246-253.

Kamble, N. A., & Velhal, V. V. (2010). Study of sodium fluoride toxicity on hematological parameter of Rattus norvegicus. *In Biol Forum*. 2(*2*), 56-8.

Kamboj, A., & Saluja, A. (2009). Bryophyllum pinnatum (Lam.) Kurz.: phytochemical and pharmacological profile: a review. Pharmacognosy Reviews, 3(6), 364

Kapoor. L. D. (2001). *Handbook of Ayurvedic Medicinal Plants*.CRC Press, Florida.

Kar, A., Choudhary, B. K., & Bandyopadhyay, N. G. (2003). Comparative evaluation of hypoglycaemic activity of some Indian medicinal plants in alloxan diabetic rats. *Journal of ethnopharmacology*, *84*(1), 105-108.

Karnick, C. R., Tiwari, K. C., Majumdar, R., & Bhattacharjee, S. (1981). Newer ethnobotanical and folklore studies of some medicinal plants of Gauhati and surrounding areas. Nagarjun, 24(*11*), 240-245.

Karthikumar, S., Vigneswari, K., & Jegatheesan, K. (2007). Screening of antibacterial and antioxidant activities of leaves of Eclipta prostrata (L). *Sci. Res. Essay*, *2*(4), 101-104.

Karuppusamy, S., Muthuraja, G., & Rajasekaran, K. M. (2011). Antioxidant activity of selected lesser known edible fruits from Western Ghats of India. *Indian Journal of Natural Produts and Resources*. 2(*2*), 174-178.

Kermath, B. M., Bennett, B. C., & Pulsipher, L. M. (2014). Food Plants in the Americas: A Survey of the Domesticated, Cultivated, and Wild Plants Used for Human Food in North, Central and South America and the Caribbean, Unpubl. *Manuscript, Univ. Wisconsin Oshkosh, Oshkosh*.

Kirtikar K.R. and B.D. Basu, (1935), Indian Medicinal Plants, Vols. I, II III and IV, Bishan Singh Mahendra Pal Singh, Dehradun.

Komor, P. & Devi, O.S. (2016). Edible bioresources & livelihoods. Assam State Biodiversity

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS), Under the license CC BY- 4.0

Board, Guwahat.

Kumar, S., Das, G., Shin, H. S., & Patra, J. K. (2017). Dioscorea spp.(a wild edible tuber): a study on its ethnopharmacological potential and traditional use by the local people of Similipal Biosphere Reserve, India. *Frontiers in pharmacology*, 8, 52.

Kundan, P. (2014). Evaluation of antioxidant, vitamins, phytochemicals and nutritive values of Euphorbia hirta Linn. *Research Journal of Phytochemistry*, *8*(2), 47-51.

Landy, D. (1977). Culture, disease and healing. *Studies in medical anthropology*, *467*.

Launert. E. (1981). Edible and Medicinal Plants.

Manandhar. N. P.(2002). Plants and People of Nepal. Publication; Timber Press. Oregon.ISBN; 0-88192-527-6

Mirfat A. H. S., Noorlidah, A., & Vikineswary, S. (2014). Antimicrobial activities of split gill mushroom Schizophyllum commune Fr. *American Journal of Research Communication*, 2(7), 113-124.

Moerman, D. E. (1998). *Native American Ethnobotany*. Timber press.

Nayar, S. L., Chopra, I. C., & Chopra, I. C. (1956). *Glossary of Indian Medicinal Plants* New Delhi.

Nitha, B., Meera, C. R., & Janardhanan, K. K. (2007). Anti-inflammatory and antitumour activities of cultured mycelium of morel mushroom, Morchella esculenta. *Current Science*, 235-239.

Nwali, B. U., Okaka, A. N. C., Offor, C. E., Aja, P. M., & Nwachi, U. E. (2014). Proximate and Mineral Compositions of Bryophyllum pinnatum Leaves. *American Journal of Phytomedicine and Clinical Therapeutics*. 2(3), 286-289.

Otimenyin, O.S.; Uguru, O.M. and Ogbonna, A. (2008) Antimicrobial and hypoglycemic effects of Momordica balsamina. Linn.. *J. Nat. Prod*., 1, 03-09.

Kar, P., Dey, P., Misra, A. K., Chaudhuri, T. K., & Sen, A. (2016). Phytometabolomic fingerprinting of selected actinorhizal fruits popularly consumed in North-East India. *Symbiosis*, *70*(1), 159-168.

Parmar. C. and Kaushal. M.K. (1982). Wild Fruits of the Sub-Himalayan Region. Kalyani Publishers. New Delhi.

Patel, A. V., Rojas-Vera, J., & Dacke, C. G. (2004). Therapeutic constituents and actions of Rubus species. *Current medicinal chemistry*, *11*(11), 1501-1512.

Patil, A., & Kakde, M. (2020). Medicinal plant as a natural immunity booster for COVID19-A review. *Indian Journal of Integrative Medicine*, 24-27.

Pradhan S, Manivannan S, Tamang JP(2015). Proximate, mineral composition and antioxidant properties of some wild leafy vegetables. *J Sci Ind Res*. (74)155-9.

Prajapati, N. D., Purohit, S. S., Sharma, A. K., & Kumar, T. (2003). A handbook of medicinal plants: A complete source book. In *A handbook of medicinal plants: a complete source book* (pp. 554-554).

Rani, S., Rana, J. C., & Rana, P. K. (2013). Ethnomedicinal plants of Chamba district, Himachal Pradesh, India. *Journal of Medicinal Plants Research*, *7*(42), 3147-3157.

Rutto LK, Xu Y, Ramirez E, Brandt M (2013). Mineral properties and dietary value of raw and processed stinging nettle (Urtica dioica L.). International journal of food science. (13), 1-9.

Sahoo, H. B., Patro, S. K., Sagar, R., & Santani, D. D. (2015). Mutagenic evaluation and

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS), Under the license CC BY- 4.0

spectroscopic characterization of flavonoidal fraction of Apium leptophyllum (Pers.) fruit. *International Journal of Nutrition, Pharmacology, Neurological Diseases*, *5*(2), 82.

Sajid, S. M., Zubair, M., Waqas, M., Nawaz, M., & Ahmad, Z. (2015). A review on quince (Cydonia oblonga): a useful medicinal plant. *Global Vetenaria*, 14, 517-524.

Samant, S. S. & Dhar, U. (1997): Diversity, endemism and economic potential of wild edible plants of Indian Himalaya. *International Journal of Sustainable Development and World Ecology*. (4) 179-191.

Santhi Sri, K. V., Rajamani, S. and Simhadri, S (2017). Amla, a Marvelous Fruit for Type -2 Diabetics-A Review. *International Journal of Current Microbiology and Applied Sciences* (5),116-123.

Scriber, J. Mark (1 January 1978). "Cyanogenic Glycosides in Lotus corniculatus. Their Effect upon Growth, Energy Budget, and Nitrogen Utilization of the Southern Armyworm, Spodoptera eridania". *Oecologia*. 34 (2), 143–155.

Sharma, P., Kumar, P., Sharma, R., Gupta, G., & Chaudhary, A. (2017). Immunomodulators: Role of medicinal plants in immune system. *National Journal of Physiology, Pharmacy and Pharmacology*, 7(6), 552.

Shiksharthi, A. R., & Mittal, S. (2011). Ficus racemosa: phytochemistry, traditional uses and pharmacological properties: a review. *International Journal of Recent Advances in Pharmaceutical Research*, *4*, 6-15.

Mir, S. R., Ali, M., & Kapoor, R. (2004). Chemical composition of essential oil of Cinnamomum tamala Nees et Eberm. leaves. *Flavour and fragrance journal*, *19*(2), 112-114.

Singh, P.B. (1918). *Flora of the Mandi District Himachal Pradesh North West Himalaya.* Bishen Singh Mahendra Pal Singh, Dehradun. ISBN: 9788121109628.

Sood SK, Thakur S. (2004). *Ethnobotany of Rewalsar Himalaya*. Deep Publications.

Thakur, ST. (2021). *An Illustrated Guide To Some Wild growing Food Plants of The Sub Himalayan Region.* Narayan Publication.

Tsarong. Tsewang. J. (1994). *Tibetan Medicinal Plants*.Tibetan Medical Publications, India; ISBN; 81-900489-0-2

Uniyal, S. K., Singh, K. N., Jamwal, P., & Lal, B. (2006). Traditional use of medicinal plants among the tribal communities of Chhota Bhangal, Western Himalaya. *Journal of ethnobiology and ethnomedicine*, *2*(1), 1-8.

Uniyal, M. R. (1968). Medicinal plants of Bhagirathi valley lying in Uttarkashi forest division. *Indian Forester*, *94*, 407-420.

Uphof. J. C. Th (1959). *Dictionary of Economic Plants*. Weinheim, publication.

Usher, G. (1974). *A Dictionary of Plants Used By Man*. Constable and Company Ltd

Watt, J.M. and Breyer-Brandwijk, M.G. (1962) *Medicinal and Poisonous Plants of Southern and Eastern Africa*. E&S. Livingstone, Ltd., London.

Yeung, H. C. (2004). Handbook of Chinese Herbs and Formulas Institute of Chinese Medicine, Los Angeles. *The American Soc Nutr Sci J Nutr*, *134*, 1105-59.

Copyright © 2020-2021, Journal of Scientific Research in Medical and Biological Sciences (JSRMBS), Under the license CC BY- 4.0