

IMPORTANCE OF UNDER-EXPLOITED VEGETABLES IN HUMAN DIET

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Introduction:

In India the major portion of population is vegetarian and depends for balance diet on vegetables which are only the cheapest sources of natural nutritive food. Most of the researches regarding improvement and production of vegetable are confined to only some important vegetables. However, a number of vegetable species which have originated in Indian sub-continent still not known to common consumers because they are cultivated in certain pockets by the local farmers (mostly tribes) and consumed in various forms in their daily lives. Most of these species are under exploited and knowledge on various aspects of their cultivation is completely lacking. The underutilized vegetable are low input demanding and adopted to comparatively adverse climatic conditions such as drought, biotic stress, salinity, etc. Cultivation of these vegetables in adverse soil and environment would be a component of agriculture diversification. A brief information on important under exploited vegetable plant species, suitable for cultivation under different

agro-climate conditions is given in this text.

There are various species-namely, meetha karela (*Cyclantherapedata*), wild cucumber (*Cucumis hardwickii*), chocho (*Sediuneduel*), chulai (*Amaranthus gangetics*), bathua (*Chenopodium alba*), perennial tree tomato (*Cyphomandrafetacea*), Globe Artichoke (*Cynara scopymun*), Basella (*Basella alba*), and kakrol (*Momordica cochinchinensis*), which are on the verge of extinction from agricultural habitat under the domain of modern agriculture. Besides, lingri (*Pteriduinanguilinun*) and wild yams (*Dioscorea spp.*) becoming scare in forest habitat due to over-exploitation. Among these species, the taro (*Colocasia spp.*) has tremendous variability and adaptability to different agroclimatic zones of western Himalayan regions. It is also a potential source of starch, besides its utility as vegetables or making pickles. In days of famine and other natural calamities, these under exploited vegetables have an important place as a staple food for human beings. The edible parts involves, rhizomes, roots, aerial tubes, leaves, fruits (mature or immature), seeds and pulp of

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fruits and other plant parts. Most of these vegetable, and land races are endangered which have specific nutritive values. The use of such vegetable species help in minimizing malnutrition, amelioration of many diseases and disorders of poor community. Bringing of marginal areas under the production of different endangered and under exploited vegetables in different ecological situations is essential to conserve biodiversity and utilize their potentiality for amelioration of malnutrition together with upliftment of economically poor pupil of both hills and plains. The availability of different nutritional factors from these UEVs given as under.

Adzuki bean (*Vigna angularis wild*):

The seeds contain fatty oil, Yong pods and ripe seeds are eaten and pulse used confection.

Basella (*B.alba*) : It contain protein 3% and Vit.C 80 mg., calcium 3.5 mg, phosphorus 83.5 mg., Mg 103 mg/ per 100 g edible part respectively. The juice is very useful in case of constipation, particularly for children and pregnant women.

Bathua (*Chenopodium spp.*): It contains protein 3.7 g., fat 0.4 g., carbohydrate 2g., energy (Kcal) 30, Iron 4.2 mg., B-cerotene 174 mg., vitamin C 35 mg/100 g of edible portion.

Buckwheat (*Fagopyrum esculentum*): It contains protein 25.1%, fat 3.3%, minerals 21.3%, energy (Kcal) 27%

calcium, 2.12% and Iron 111 mg/100 g edible part.

Chayote (*Sechium edule*): It contains protein 0.9%, fa 0.3%, total sugars 4% and starch 1.3%. It is also good, source of minerals, like Ca 19 mg., Fe 0.4 mg phosphorus 20 mg/100 g edible parts. It also has vitamins like B₁, B₂, niacin, vitamin C. It provides 26 calories per 100of fresh edible portion.

Faba bean (*Vicia faba*): The protein content of vicia is about 25% and this species has certain unique qualities such as fruiting on main stem from base of the plant. Young pods and seeds are cooked for vegetable.

Globe artichoke (*Cynara scolymus*):

The edible part is immature buds which is good source of minerals. Its use is recommended to diabetic patient because 'the flower bud contains insulin.

Kakrol

(*Mamordiacochinchinensin*): It is a good sourceof protein, vitamins and minerals, the seeds are used as aperients and for the treatment of ulcers, sores and obstruction of liver and spleen.

Kartoli (*Mamordica dioica*): Edible part is fruit which is good source of protein and minerals,

Oyster Nut (*Telfariapedata*): It is grown primary for their edible seeds and contain good amount of amino acids like

arginine, methionine, aspartic acid, glutamic acid, thiamine, niacin.

Shoma (*Rymexpatientia*): It is rich in protein 29.4%, fat 6.4%, minerals 12.3%, energy (Kcal) 316, calcium 0.88% and phosphorus 50 mg Iron 26 mg/100 g edible part.

Taro (*Colocasia esculenta L.*): Edible part is corm and used for culinary purpose and preparation of chips. It is rich source of starch, proteins and good source of vitamin (A and B) and calcium.

Winged bean (*Psophocarpus tetragonolobus*): It is very rich in protein 30-39% and oil (15-18%). Its pods, seeds and roots are edible and the plant is also used as fodder. In India, it is largely cultivated in the humid subtropical parts of North eastern region.

Yam (*Amorphophallus* species): Edible part is corm which is source of vitamin (A and B) and minerals.

In order to recognize the potential of under exploited vegetable crops, there is a need to broaden the range of plant species utilized by human being. An untapped potential of these species which exists in the fruits, grasslands, swamp, rivers, seas and even desert of the world. Currently much global awareness prevails among not only the researchers but equally among the planners, growers and users all over the world about the

usefulness and economic potential of under exploited vegetables. It is thus, imperative to give due attention to these under exploited vegetables in order to provide balanced nutrition to Indian mosses.

