

Underutilized Vegetable Crop

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Abstracts:

Vegetables are usually an ancillary ingredients of dietary intake, but constitute the main part of the diet in a number of countries. They are considered as the cheapest and the richest source of vitamins, minerals, roughages, dietary fibres and water. Vegetable output has expanded dramatically, thanks to the development of superior varieties/hybrids/production and protection methods as a result of rigorous study and widespread acceptance by farmers. Only a few main veggies, however, contributed to this extraordinary output. Despite the fact that India's diversified agro-climatic conditions allow for the cultivation of more than 60 farmed and roughly 30 lesser-known vegetable crops, little attention has been paid to underutilised vegetables. Underutilized vegetable crops are those which are neither grown commercially on large scale nor traded widely. Some underutilized vegetable crops are Lettuce, Asparagus, Celery, Amarnathus, Globe artichoke, Leek, Chekurmanis, and Chinese cabbage ,Kale, Kakrol ,Moringa olerifera etc.These vegetables are less utilized due to lack of their recognition ,lack of avaiability of planting materials ,lack of scientific knowledge , lack of information on production technology of these crops , lack of knowledge about their nutritional and medicinal values.

These crops are considered as valuable component to attain nutritional security because of their high content of vitamins, micronutrients and proteins. Most of underutilized vegetable crops are tolerant to harsh agro-climatic conditions due to broad genetic base. Systematic attempt should be made to evaluate such underutilized plants .ICAR funded AICRP which has promoted improvement in these crops. The government of India has been taking some steps to do research on underutilized crops like MIDH (Mission for Integrated Development of Horticulture), MEIS (Merchandize Export from India Scheme) and a national coordinated project has been also launched by Ministry of Agriculture. Basically,



these underutilized vegetable crops have great potential for food security, income generation and environmental services and ultimately it makes Indian economy sounder.

Introduction

Over the last 500 years, 30 or so crop species have become widely cultivated and are now the foundation of much of the world's agriculture, thanks to increased contact between diverse populations and the establishment of a trading system. Because of extensive vegetable farming, the focus has switched to a small number of crop species, resulting in monoculture, and the number of species on which world food security depends has been substantially reduced. India is one of the world's most populous countries, accounting for roughly one-fifth of the global population and over 70% of farming households. The yearly population growth rate is roughly 1.8 percent, but food demand is predicted to rise by 3 percent or higher..So to have a healthy and productive nation, one has not only to consider increasing the food production but able to assure a balanced diet to the people. To address the many difficulties, synergistic interactions between enhanced technologies, institutional supports, favourable government policies, and farmer awakening are required. Self-reliance may not always imply nutritional sufficiency. Indeed, There are still significant nutritional imbalances in terms of calories, proteins, minerals, and vitamins availability. Furthermore, malnutrition is a major issue in the country. These Increased availability of resources could help to mitigate shortcomings to a large extent veggies. Vegetables are an important part of a well-balanced human diet nutrients, vitamins, and minerals are key drivers in achieving global nutritional security. Vegetables account for 60 percent of overall horticulture production in India. India is a producer of from a total area of 10.35 million hectares (2019-2020), 191.77 million metric tonnes of vegetables were produced. This magnificent increase was possible due to development of improved varieties/hybrids/ production and protection technologies through systematic research coupled with large scale adoption by the farmers. However, this remarkable production was contributed by only few major vegetables. Although, diverse agro climatic conditions of India permit to grow more than 60 cultivated and about 30 lesser known underutilized vegetable crops are the those to which little attention is paid or which are entirely ignored by consumers , agriculture researchers, plant breeders and policymakers. Usually, underutilized vegetables crop are not traded as commodities. often described with terms such as neglected and underutilized.

Major Concerns Which Make These So Called Underutilized:

Different names are used interchangeably to describe the range of underutilized vegetable crops. Some of these names are, Orphan, abandoned, new, neglected, lost, underused, local, minor, traditional, forgotten, alternative, niche, promising, underdeveloped: these and other terms are often used as synonyms for underutilized species.

Following are the features to be considering vegetable crops under utilized plants are as follows:

- Linkage with the cultural heritage of their places of origin
- Local and traditional crops whose distribution, biology, cultivation and uses are poorly documented
- Adaptation to specific agroecological niches and marginal land.
- Weak or no formal seed supply systems.
- Traditional uses in localized areas.
- Produced in traditional production systems with little or no external inputs.
- Receive little attention from research, extension services, policy and decision makers, donors, technology providers and consumers.
- May be highly nutritious and/or have medicinal properties or other multiple uses.
- Easier to grow and hardy in nature.
- These are cheap and readily available.

Importance:

An untapped potential exists in the large group of underutilized and underexploited plants. these crops are rich source of vitamins (Amaranthus, Portulaca, Basella), Minerals (Amaranthus, drumstick leaves, sword bean), Fibres (Kakrol, kheksa and all leafy vegetables, all parts of winged bean). Many traditional or indigenous vegetables are characterized by a high nutritional value compared with global vegetables like tomato and cabbage. As sources of essential vitamins, micronutrients, protein and other phytonutrients, traditional vegetables and underutilized legume crops such as moong bean have the potential to play a major role in strategies to attain nutritional security.

Indigenous vegetables are contributing to better health, are rich in vitamins, antioxidants such as phenolics and have a definite role in alleviating hunger, micronutrient deficiencies, preventing many diseases. It leads to balanced year round nutrition , provide

new market opportunities and enhance farm income. It also provides complementary assets that allows producers to diversify into new business areas and consumers to increase their choice of healthy food and income. They constitute essential biological assets of the rural poor and can contribute to improving the well-being of millions of tribal population. Underutilized vegetables are rich in vitamins, minerals and other health promoting factors including high antioxidant activity. They play a major role in the diversification of diet leading to more balanced source of micronutrients. Furthermore underutilized vegetables possess resistance to several biotic and abiotic stress the underutilized vegetable crops can also provide nutrition to the poor by meeting the nutrient requirements of vulnerable groups too.

List of Underutilized Vegetable Crop :

S.N.	COMMON NAME	SCIENTIFIC NAME
1	Amaranthus	Amaranthus spp
2	Rhubarb	Rheum rhabarbarum
3	Parsnip	Pastinaca sativa
4	Kale	Brassica oleracea var. acephala
5	Asparagus	Asparagus officinalis
6	Leek	Allium porrum
7	Globe artichoke	Cynara scolymus
8	Pointed gourd	Trichosanthes dioica
9	Kakrol	Momordica dioica
10	Vallarai	Centella asiatica
11	Elephant foot yam	Amorphophallus campanulatus
12	Celery	Apium graveolens
13	Kheksa	Momordica cochinchinensis
14	Winged bean	Psophocarpus tetragonolobus
15	Jack bean	Canavalia ensiformis
16	Drumstick /moringa	Moringa oleifera
17	Vegetable humming bird	Sesbania grandiflora

Constraints :

The following are frequent constraints:

- limited germplasm available;
- lack of technical information;
- lack of national policy;
- lack of interest by researchers, agriculturists and extension workers;
- lack of producer interest.



Globe artichoke



Parsnip



Asparagus



Leek



Kakrol

Celery



Elephant Foot Yam



Drumstick



Pointed Gourd



Sesbania



Winged Bean



Jack Bean



Vallarai