

## Underutilized and Unexploited Vegetable Crops: Scope and Importance in Future Food Supplies

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### Introduction

India is one of the most populous countries of the world and accounts for about one-fifth of the world's population with more than 70% of the farming households. The annual population growth rate is around 1.8 percent, whereas, the overall demand for food is expected to grow by 3% or more per annum in the near future. Although, diverse agro climatic conditions of India permit to grow more than 60 cultivated and about 30 lesser known vegetable crops, not much attention has been given on underutilized vegetables known. Underutilised crops/plant species as “those species with underexploited potential for contributing to food security, health (nutritional/medicinal), income generation, and environmental services” (Jaenicke and Hoeschle, 2006).

### What are underexploited vegetables?

Underutilized crop species as crops whose potential contribution to the national economy have not been adequately explored due to the decreased attention to their production, consumption and utilization (Aboagye *et al.*, 2007). Important vegetable crops that grown as underexploited are Asparagus, Amaranthus, Basella, Moringa, Ivy gourd, Globe artichoke, Kale, Broad bean, etc.

- The vegetable crops, which are neither grown commercially on large scale nor traded widely, may be termed as underutilized.
- The under-utilized vegetable crops are the plant species that are traditionally used for their food, fiber, fodder, oil or medicinal properties. However, those species have

potential to ensure food security, nutrition, health, income generation and environmental services (*Jean et al.*, 2018).

## Under-utilized Cucurbitaceous Vegetables

- Under-utilized cucurbits are now getting boost because of their nutritive and medicinal value including antioxidant properties.
- This includes vegetables like sponge gourd, wild cucumber, spine gourd, pointed gourd, ivy gourd, sweet gourd, etc.
- Most of them are important minor vegetables of Northern, Eastern and Southern India.
- Due to inadequate policy measures no systematic efforts have been made on estimating the area and production of these crops.
- Crops such as Oriental pickling melon, Long melon, Snap melon, Spine gourd, Sweet gourd, Pointed gourd, Ivy Gourd, etc.



Spine gourd



Teasle gourd



**Chow chow**



**Ivy gourd**

## Under-utilized Legume Vegetables

- ✓ The legume family, Fabaceae is the third largest family of flowering plants with approximately 650 genera and nearly 20,000 species.
- ✓ Legumes can biologically fix nitrogen, adding annually up to 500 kg N/ha/year to the soil.
- ✓ Among legumes, beans are very important as vegetable in the immature stage as well as the seeds are staple food crop in the mature stage.
- ✓ Besides French bean, vegetable pea, there are several beans grown on a very limited scale in different parts of the country.
- ✓ Beans are also very important source of protein when compared to other foods.
- ✓ Crops such as Broad bean, Cluster bean, Indian bean, Sword bean, Lima bean, Jack bean, etc.



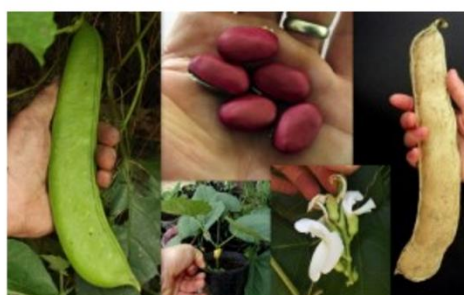
**Rice Bean**



**Velvet Bean**



**Clove Bean**



**Sword Bean**



**Winged Bean**

## Underutilized leafy vegetables



**Water spinach**



**Celery**



**Gudri sag**



**Water leaf**



**Lettuce**



**Asparagus**



**Moringa**



**Amaranthus**

## Upcoming Solanaceous vegetables

- Perennial shrub, grown in the backyards in Meghalaya and Sikkim.
- **Tree tomato** small, tender 2-3 m tall tree, which bears prolifically egg shaped berries with pointed ends in cluster near the young shoots.
- The long-stalked, pendent fruit, borne singly, or in clusters of 3 to 12, is smooth, eggshaped but pointed at both ends and capped with the persistent conical calyx.
- Size ranges from 5-10 cm in length and 4-5 cm in width.
- Colour - solid deep-purple, orange or yellow, or red-and-yellow, and may have faint dark, longitudinal stripes.
- Pulp of the fruit - light orange and the seeds are black.
- Tree tomato is consumed as delicious chutney when raw or after roasting and peeling off the skin.



*(Cyphomandrabetacca)*

Tree Tomato

## Underutilized Vegetables in HP



**Amaranth**



**Indian sorrel**



**Lungru Water chestnut**



**Endive**

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