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## World's Costliest Vegetable "Hop-Shoot" grown by farmers

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Devi Lal Dhaker<sup>1\*</sup>, Shivam Maurya<sup>2</sup> and Akansha<sup>3</sup>

<sup>1</sup>Department of Agronomy, Sri Karan Narendra Agriculture University, Jobner, Jaipur (Raj.) 303328

<sup>2</sup>Department of Plant Pathology, Sri Karan Narendra Agriculture University, Jobner, Jaipur (Raj.) 303328

<sup>3</sup>Department of soil science and agricultural chemistry, Bihar Agricultural University, Sabour, Bhagalpur (Bihar) 813210, India

\*Corresponding author. E-mail: [devilal.dhaker09@gmail.com](mailto:devilal.dhaker09@gmail.com)

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With the help of modern technology, many farming communities in India are boldly taking risks in increasing productivity and also adopting new methods of agriculture. Modern equipment allows farmers not just to yield better crops but also to grow new ones that have a significant medical and market value.

### Species Name

The hop - called *Humulus lupulus* is a perennial plant. A native of North America and Europe, hop shoots were believed to be a weed until its properties were known.

### Antibacterial Effect

According to the website [agrifarming.in](http://agrifarming.in), hop shoots have "antibacterial effects" and are used for "bittering", "flavouring" and as "stability agent in beer". Hops are the green colour, cone-shaped flowers of the female hop plant. Hops are agricultural produce, the female flowers of a plant in the cannabis family. However, it isn't actually edible in simple way. These plants was considered weed before its peculiar properties were exposed, namely that it has specific antibacterial effects. Hops extract creates an unfavorable environment for most microorganisms, that is bad bacteria can't grow. One of the only varieties of bacteria that can endure is brewer's yeast, making it perfect for beer. And the bitter flavor of hops, normally not that desirable in food & beverage manufacturer, serves well to balance out the sweetness. Special about 'hop-shoots fruit, flower, and stem of hop-shoots are all used in beverage making, beer making and for medicinal purposes like in making antibiotics. The medicine, which is made with the stem of this vegetable, has also been found to have a high curative effect in the treatment of Tuberculosis (TB). Its flower is called hop-cones or strobile, which is used as a stability agent in the making of beer. The rest of the twigs are used for food and medicine purposes. The use of hop-shoot as an herb is also popular in European countries, where it is used for keeping the skin gleaming and young since the vegetable is also a rich source of antioxidants. The shoots have an acid called humulones and lupulones in them that is believed to be effective in killing cancer cells in the human body. The medicine improves the digestive system, provides relaxation for those with depression, anxiety, is an analgesic and cures insomnia also.

### Climate and Land Requirement

Hops begin to sprout from the ground in March, the stems are plentiful, though they are weak, and need to be pruned. Pruning consists of cutting the plant stems and new wood. The crops should be treated so as not to damage the old wood, which could lead to the wilting of the entire bine. Before planting, the land is carefully dragged and Hop poles and wires are set up. Normally, Hop production is limited to regions above 35°N or S latitude. A dormant period with 5 to 6 weeks of near freezing temperatures is required for optimal growth, and Hop crowns can survive temperatures of -25°C or lower when insulated by snow or soil.



Ideal soil types vary considerably, but all should be deep and well-drained to promote optimal growth of the large root mass of the Hop plant. The perennial root system of a well-developed plant can grow more than 4 m deep and up to 5 m laterally. This extensive root system is necessary for uptake and storage of the water and nutrients essential to facilitate rapid growth in the spring and summer months.



Fig. 1 Hop Shoot Fruits



Fig. 2 Cultivated field

### Why so much Expensive?

The hop shoots are "absolutely back-breaking to harvest" and hence the high cost. The weed-like tendrils grow haphazardly and one has to "hunch", "hunt around" and they are so "tiny so you need to pick hundreds to fill a carrier bag. The crop is mostly seen in international markets and is only seen in Indian markets when someone places a special order. The vegetable reportedly sold for £1000 (Rs 1.01 lakh) pounds a kg even six years ago in international markets. The plant was once cultivated in India's Lahaul in Himachal Pradesh but couldn't take off due to lack of marketing for the produce and thus had to be abandoned. Hop-shoots were discovered in the early 11th century and have been extensively used as a flavouring agent in beer. Gradually, its use as a vegetable and herbal medicine grew in several countries.