

VARIETAL WEALTH OF GOURMET'S ONION: FUTURE VEGETABLE

Selvakumar Raman¹, Praveen Kumar Singh¹,

Jugendra Kumar¹, Manjunathagowda D.C²

¹ICAR-Indian Agricultural Research Institute,
PUSA, New Delhi

²ICAR-Directorate of Onion and Garlic Research,
Rajgurunagar, Pune

INTRODUCTION: COMPOSITION:

Leek is a non-bulb-forming herbaceous biennial member of the onion family that is grown for its blanched stem and leaves. It is a self-compatible out breeding tetraploid ($2n = 4x = 32$) from the *Allium ampeloprasum* L. species complex, which contains wild and cultivated forms with ploidy levels of $4x$, $5x$, and $6x$, the most frequent being tetraploidy. Leeks (*Allium porrum* or *A. ampeloprasum* var. *porrum*), sometimes known as “the gourmet’s onion,” are related to onions (*Allium cepa*) and garlic (*Allium sativum*), but have flat leaves rather than tubular leaves and a small bulb. Since the Middle Ages, Leek has been grown in Western Europe. Indonesia and Turkey produce the most leeks, with France and Belgium being the leading European producers. According to the United Nations Food and Agriculture Organization’s most recent data, global leek output was around 2,096.067 tonnes in 2016, gathered from 131.766 hectares. In India, commercial leek production is not practised, and wherever it is grown, it is on a small scale, primarily in the kitchen garden as a favourite vegetable.

The flavour of the leek is more delicate and sweeter than that of the onion. It’s chock-full of vitamins, minerals, antioxidants, and dietary fibre. It has a high concentration of flavonoids, including kaempferol, as well as a significant level of sulphur. The presence of S-alkyl-cysteine sulphoxides is linked to the leek’s distinctive flavour, with propyl- and methyl-cysteine sulphoxides being the most common in current leeks. The amount of quercetin and kaempferol in farmed leek bulbs is very low (below 20 mg/kg fresh weight) or traces (below 2 mg/kg FW).

USES

The leaf sheaths form an etiolated pseudostem, which is why it’s so popular. Because of its low temperature tolerance and the lack of photoperiod needs or a bulb resting stage, the leek is a very versatile vegetable crop that is farmed all over the world. Leek has a gentler, more delicate flavour than onion, but having a coarser texture. For millennia, the leek has been utilised in a variety of delectable cuisines all



across the world. A bundle of leaf sheaths, often known as a stem or stalk, is the edible component of the leek plant. The pseudostem is the stem. It is eaten raw when it is tender. It’s also used to flavour soups and stews when cooked with other veggies.

Leek’s therapeutic virtues have been known and used for generations. The popularity of the leek stems from its great nutritional value as well as its wide range of biological activities, owing to its strong antioxidant content. Leeks were used to treat a variety of ailments in ancient medicine.

VARIETAL WEALTH

Leek cultivars have a wide range of growing habits, which has an impact on the end output. They range in size from long, green narrow-leaf varieties with long, thin white stems to long, wide-leaf varieties with thicker, shorter white stems and blue-green leaves. There are no tropical leek cultivars other than vegetatively propagated tropical forms and historical importation from temperate nations. In temperate regions of the world where it is commercially grown, the varieties are divided into two groups: There are two seasons: early and late. The first leeks of the season are ready to eat. Depending on the cultivar, 50 to 100 days after planting. Early season leeks are smaller, more susceptible to frost, and have a milder flavour than late-season leeks. They’re easier to grow than late-season leeks because they don’t require blanching. Late-season leeks mature 120 to 180 days after germination, depending on the variety. These types have a stronger flavour, broader stems, and require blanching for optimum quality. In India, very little work has been done on improving leek cultivars. Cultivars grown in India are all introduced varieties. London Flag and American Flag are two cultivars of interest in India. Palam Paushtik and PPL-1 are two cultivars that have recently emerged as a result of selection.

Palam Paushtik

It's a green onion substitute that's good for salads, soups, and cooking. It takes around 140-150 days to mature and produces 300-350 q/ha on average.



PPL-1

It's a hybrid of exotic germplasms with light green leaves and a swollen stem that doesn't develop a bulb. It matures in 150-160 days and is a decent substitute for green onion.

London Flag, American Flag, Elephant, Gennivillies, St. George, Copenhagen Market, Bluevetia, Borde Pearl, Belgium Winter Giant, Large Musselburgh, and others are commercially important Leek types. The following are some of the characteristics of some of these variants, as proposed by them:

Renova

A variety that was created by selecting from a large number of possibilities. Regions produce marker leaves, have a longer stem, and have fewer bulb-forming tendencies, as well as being more uniform in size and shape.

Miner

Long stem and high greens yield are produced by a fall or early winter cultivar derived from St. George.

Splendid

This cultivar can be grown at any time during the year.

London Flag

With tall and broad leaves, it is the most commonly cultivated cultivar.

Musselburgh

It's a long-lived and hardy cultivar. It has broad, lofty leaves and a long, thick stem.

Roven (Large)

It has dark green leaves that are large and thick, and a short but sturdy stem. It can grow to be as long as a man's arm. It has been discovered to be the best type of forcing because it requires a necessary thickness of stem thickness sooner than any other variety.

Lincoln

It's a leek of the early Bulgarian giant kind, with uniformly long and thick stems. It can be planted during the Rabi season and matures in 80 days after transplanting.

Carlton

The leaves of this hybrid species are upright and green in colour, and they grow quite quickly. It has great consistency in its lengthy shaft nodes.

Roxton

This cultivar has a large shaft length and good consistency. This hybrid has a quick growth rate and erect green to dark green leaves.

Parton

This hybrid's medium growth generates a medium shaft length with outstanding consistency. The leaves are a dark green colour.

The following are some of the characteristics of some of the cultivars/hybrids grown around the world.

American Flag

It is a traditional, home garden variety that matures in 90-120 days.

Musselburg the Giant

It is a Scottish heirloom that matures in 105 days and is most cold hardy.

Richard the Lionheart

It matures in 75 days and reaches full size in the summer; it is not winter hardy.

Lancelot

It grows in 70 days, is resistant to bolts, and is virus tolerant.

Lincoln

It's an early type with long, white shanks that matures in 50-100 days.

Almera

From mid-July through the end of September, there will be an autumn cropping. Long, thin stems with semi-upright, mid-green leaves.



Atlantic

Frost tolerance is excellent, allowing for winter cropping well into the new year.



Axima

The shaft is long and sturdy, with no bulbing. Erect dark green foliage.

Below Zero (F1)

British breeding has blended the vigour of an F1 Hybrid with great cold tolerance to produce high-quality leeks that can resist even the toughest conditions. Dark foliage, pure white stems without bulbing, long standing ability, bolting resistance, and rust resistance.



Solaise bleue

The leaves are a deep blue-purple colour and are a typical French type. Excellent flavour and hardiness.



Carentan

Blue-green leaves on large, thick stalks. Crops are harvested from late October to early January.



Winter, the Giant

Heavy, thick stems characterise this late variety. It will last a long period in the earth.



Hannibal

Summer and autumn cropping with a fast-growing variety.



Jolant

Early-blooming cultivar with a moderate flavour. Use as a mini-vegetable or leave to grow until August to harvest. It grows quickly and has a dense stem.

Blanch Mammoth

A great exhibition type with a thick, broad flag and extremely long white blanch. Sow at 15°C from mid-January to early-March. Overwatering seedlings might result in damping off. Starting in early May, harden off and plant out.

Oarsman (F1) Plants have a medium to dark flag leaf and are virtually bolt-free even when direct drilled. The second maturation slot is from early to mid-season. It has a high resistance to bolting.



Pot

A true show-stopper that produces exceptionally huge, hefty leeks.



Prizetaker/Lyon

Long, thick white stems are produced by a uniform habit. It's great for the display bench, as the name implies. From early October onwards, the fruit matures.



Tadorna

Crops from December to March and has a medium length, upright habit, and is exceptionally cold hardy.

