

Evaluation for the Study of Different Varieties of Lettuce (*Lactuca sativa*)

Shivani Dhyani¹, Ashish Bahuguna², Sujata Singh³

Department of Horticulture (Vegetable Science), Assistant Professor
DBS Global University Dehradun, Research Farm (Krishna Nursery Jajhra Dehradun)
Email: shivani1425[at]gmail.com

Abstract: Lettuce is the popular salad crop and it is more demandable commercial crop. It is the cool season crop and required optimum temperature approx 10 - 20°C. Lettuce generally cultivate in hydroponic system and in protected structures. This is highly nutritious crop because they have highest amount of (vitamin C) which is working as a antioxidant. Usually people knows this as a exotic crop that's why the production of this crop is too low and cost is too high. It is generally uses for the preparation of many dishes and use as a nutritious salad crop. Romaine, lollo rosso and Locarno are the most cultivated varieties in Uttarakhand. Through this article we can aware the peoples abot this salad crop.

Keywords: Lettuce, Antioxidant, Commercial crop, Cool season crop

1. Introduction

Lettuce is the most popular salad crops and is of great commercial importance. At the ancient time Europe and North America were the leading producers of lettuce; however, since the late 20th century, lettuce's production and consumption had spread throughout the world. In present - day China is the highly producer of lettuce in the World, followed by the USA. India ranks 3rd in commercial production of lettuce. It is often grown as a leafy vegetable that grows up to 30cm in height. Lettuce has loose to compact leaves that is typically green and red colour. Lettuce is the cool season vegetable requiring a mean temperature 10 - 20°C. Cool nights are essential for good quality lettuce. In Large scale lettuce cultivation is done without soil with the help of hydroponic techniques or protective cultivation like Polyhouses and greenhouses.

Lettuce is also salad crop. The botanical name is Lectuca sativa and family is Asteraceae. It is mostly grown for leafy purpose but sometime it is cultivated for seed and stem purpose. It is the good source of Vitamin K and C. India ranks 3rd in commercial production of lettuce. The demand for lettuce is growing very fast. The restaurant industry is booming steadily because the country's young generation preferring international cuisine like Burger, Pizza, Sandwiches, Spring roll etc.

It is very most important vegetable crops in temprate countries but can cultivate in tropical and subtropical regions.

2. Nutrition value

The nutritional availability of Lettuce varies according to variety. Almost in all lettuce contains high amount of Vitamin A along with small amount of Vitamin C and Iron. Here we are discussing the different varieties of lettuce with there nutrient availability.

- Ice burg lettuce give 10 calories with small amount of Vitamin C and iron. It contains fewer vitamins and minerals than other varieties.

- Butter head lettuce give 7 calories with small amount of Vitamin C, iron and Calcium. .
- Locarno, rich in antioxidants and protein with great source of Vitamin A, C and K.
- Last one is Lolo Roso contains Vitamin A, C, Folate, Fibre, Antioxidants and Iron.

The nutrients of different lettuce provide multiple health benefits

- 1) Vitamin C help support the immune system, is high in antioxidant and helps to keep teeth and bones strong.
- 2) Vitamin K is very important for blood clotting. It works together with calcium to prevent bone minerals loss and fractures due to Osteoporosis.
- 3) Vitamin A works as antioxidant, support cell growth, maintain heart, Kidneys and Lungs
- 4) Calcium necessary for the maintaining of bones, muscles function, Nerve function and blood clotting.
- 5) Folate is Vitamin B which support cell division. It is very helpful for pregnant women

Uses and Benefits of Lettuce: -

- 1) Lettuce is most often used for salad and making the other kind of foods such as soups, Sandwiches and Wraps. It can also be grilled.
- 2) Lettuce is the excellent source of beta carotene (Vitamin A) which is very useful for healthy Skin, Bones and Eyes.
- 3) It helps to stay body hydrated because it has a high water content and is also low in calories.
- 4) Lettuce is very important for the growth of the babies during pregnancy.
- 5) Romain Lettuce variety has much higher amounts of Vitamin C and beta - Carotene than Ice - burg and Butter head lettuce. Vitamin C helps to keep our gums, teeth and Skin healthy.

Varieties of Lettuce

There are the many kind of varieties

Romaine, Locarno, Lollo rosso, Baby Spinach, Crisphead, Butterhead, Looseleaf, Little Gem Lettuce, Green and Red

Leaf Lettuce, Oak Leaf Lettuce, Mesclum, Arugula, Radicchio, Escarole.

We are growing some lettuce varieties in our Krisna Nursury (Jajhra) they are: -



Lollo rosso



Locarno



Romaine

Cultivation Practices of Lettuce: -

First operation is ploughing and Plough land for two - three times to bring soil with fine tilth. Firstly carry out the soil from the field for testing nutrient status of soil. If soil have deficiency in nutrition apply micro nutrients on the basis of soil test.

Sowing Time: -

In the plain region the timing of seed sowing is September October and in High hills can be grown in the month of March and April.

Sowing Method: -

The Seed can be sown directly in the field or by raising the nursery bed. In the nursery beds, the seedlings are transplanted after 4 - 6 weeks of sowing. About 400 - 500gm seed is required for one hectare area. The spacing should be kept 45 x 45, 45 x 30 and 30 x 30cm.

Nutrient Management: -

For getting good yield 100 - 150q of well rotten Farm Yard Manure should be incorporated during land preparation. Beside this apply 50 kg each of N and K₂O and 90 Kg P₂O₅. Entire quantity of Farm Yard Manure, P K and half nitrogen is applied in the field at the time of field preparation. The remaining nitrogen is top dressed one month after first application at the time of hoeing/earthing up.

Irrigation

When sufficient moisture is not present in the soil, a pre sowing irrigation is done for seed germination in directly sown crop. After transplanting the lettuce crop should be irrigated. Subsequent irrigation is done at 8 - 12 days interval.

Intercultural Operations

Important Intercultural Operation are Shallow hoeing and weeding that are essential to keep the field free from weeds and to maintain proper aeration. About 3 - 4 hand weeding at 15 - 21 days interval are sufficient. Pre - transplant application of Fluchloralin[at]1.0 - 1.5 kg/ha effectively controls most of the weed. Herbicide like Propyzamide[at]1.5 kg/ha when applied as pre - planting proved effective for the control of weed.

Harvesting

- Harvesting depends upon the type and the purpose for which it is grown.
- Head lettuce for market is allowed to develop a solid head.
- The leafy variety become ready for harvesting within 50 - 60 days of sowing and harvested when the leaves attain full size but remain tender.
- Head type variety takes 60 - 70 days to harvest. Heads are harvested when they attain a good size and become solid.
- For home consumption the lettuce leaves can be harvested at any time, but for market it is allowed to develop a full size.

Yield

Yield of lettuce will be varied crop to crop. Green yield varies from 100 - 140 quintals/ha.

Storage

Lettuce can be stored for about 3 to 4 weeks at 0°C with 90 to 95 % relative humidity and the freshness of lettuce is maintained by the pre harvest spray of butaric acid at 5 to 10 ppm.