



Biotica Research Today

Vol 2:10 ¹⁰⁷⁸
2020 ¹⁰⁷⁹

Advanced Production Technology of Lettuce

A. Sankari^{1*}, K. Divya² and K. Kayalvizhi³

¹Dept. of Vegetable crops, HC & RI, TNAU, Coimbatore, Tamil Nadu (641 003), India

²Dept. of Agricultural Economics, FC & RI, Mettupalayam, Tamil Nadu (641 301), India

³Dept. of Horticulture, Institute of Agriculture, Kumulur, Tamil Nadu (621 712), India

Open Access

Corresponding Author

A. Sankari

e-mail: sathatnau@yahoo.co.in

Keywords

Cultivation practices, Lettuce, Post harvest, Salad crop

Article History

Received in 21st October 2020

Received in revised form 28th October 2020

Accepted in final form 29th October 2020

E-mail: bioticapublications@gmail.com

How to cite this article?

Sankari *et al.*, 2020. Advanced Production Technology of Lettuce. Biotica Research Today 2(10): 1078-1079.

Abstract

Lettuce is an annual plant belongs to the family, Asteraceae. It is most often grown as a leaf vegetable, but sometimes for its stem and seeds. Lettuce is most often used for salads, although it is also seen in other kinds of food, such as soups, sandwiches and wraps. Lettuce is a rich source of vitamin K and vitamin A, and a moderate source of folate and iron. It is moderately salt tolerant crop. The detailed cultivation practice of lettuce is discussed in this paper.

Introduction

Lettuce is botanically called as *Lactuca sativa* a very common cool season salad crop, the main constituent member of Asteraceae family. Its leaves contain almost all the vitamins, organic acid and minerals like Iron, Manganese, Potash, Cobalt, Copper, Iodine, Zinc, Molybdenum, Boron, Carotene, Vitamin C, B & E complex, Folic acid, and etc. It occupies third place after spinach and onion in the content of iron. Fresh lettuce leaves contain Vitamin A (900 IU), Vitamin C (10 mg), Chlorine (178 mg), Calcium (50 mg) and Phosphorus (28 mg) and beta carotene 0.6-6.0 mg, Malic acid 65 mg, Citric acid 48 mg and oxalic acid 11 mg/ 100 of edible part. The outer leaves contain more vitamins C and carotene than the inner leaves.

Curative Property

Lettuce promotes the regulation of water balance in metabolism. The presence of organic acids has a refreshing effect and soothes the nervous system. Lettuce helps in strengthening of walls blood vessels. It promotes the reduction of cholesterol level, helps to reduce obesity, diabetes and improves blood structure. Fresh lettuce is recommended in diet for chronic gastric and gastric ulcer patients.

Climate and Soil

Lettuce is a cool season vegetable, it performs well under sub-tropic and temperate (13-16 °C) conditions. Both lower and higher temperature affects its seed germination. High temperature induces bolting. Increased CO₂ enrichment (1000-1500 ppm) under glass house condition results in high yield.

Well drained sandy loam soil rich in organic matter is best for its cultivation. It is highly sensitive to acidic soils. Neutral soils or slightly acidic (pH 6.0-6.6) soils are suitable. The crop thrives well under light soil moisture regime. Under high temperature and low humidity the leaves become increasingly bitter. Lettuce forms dense heads wherein the night temperature is lower by 6-8 °C than the day temperature.

Varieties

Lettuce varieties are classified into various groups:

Crisp head: heading type with wrinkled non wrapper leaves, brittle texture.

Butter head: with small, loose heads having oily soft textured leaves.

Cos or Romain: elongated leaves forming a loaf shaped head.

Bunching: non-heading or leaf type, which produced a rosette of leaves.

Stem type: produce thick stem, which are eaten after peeling.

A number of varieties exist in each group. Great lakes (crisp head type), Chinese Yellow and Snow Bolt (leaf type) are varieties recommended for cultivation in India. A number of private seed companies supply seeds of different varieties suitable for Indian conditions.

Manures and Fertilizers

Lettuce prefers loose, friable humus rich soil a neutral soil reaction. Application of 15-20 t/ha compost with 90 kg N, 60-65 kg P_2O_5 and 60-65 kg K_2O are recommended. Full P and K are mixed and applied as basal dose. Rest N is applied as top dressing 30 days after transplanting. Application of Ca-Chloride @ 100 ppm and maintain soil regime controls the tip burning in lettuce.

Cultural Practices

Lettuce is propagated by seed. About 500g seeds/ha is sufficient. Seedlings are raised and transplanted at a spacing of 45 cm × 35 cm. It requires a light irrigation days after transplanting. Subsequently weekly irrigation is sufficient. Lack of adequate soil moisture and calcium deficiency causes tip burning/ scorching of lateral margins of inner leaves of mature head. Weeds are managed well especially during early crop growth stages.

Harvesting and Post Harvest Management

Heading types are harvested when heads are fully developed. It is better to avoid harvesting when there is rainfall or dew, because the turgid leaves become

very crisp and break easily on handling. The produce is graded for removing the diseased and injured leaf/ heads and is sent to the market. Its yield varies from 10-12 t/ha. It can be stored for 3-4 weeks under refrigerated conditions. Pre and post harvest applications of BA (5-1 ppm) helps delay senescence in storage and improves the shelf life.

Leaf lettuce varieties are typically vacuum-cooled or hydro-cooled, but forced-air cooling may also be used. If the lettuce is vacuum-cooled, it is placed in a vacuum chamber. The reduced pressure around the product causes water on the product surface to evaporate lowering the surface temperature of the product.



Figure 1: Field view of Lettuce

Conclusion

It is more important cool season crop cultivated in all over India. This crop cultivation practices more useful to the farming community and students.

References

- <https://www.agrifarming.in/lettuce-cultivation>.
- "Post-Harvest Cooling and Storing of Lettuce." Cooling and Storing Lettuce Post-Harvest. SEMCO, 2016.
- Still, D.W., 2007. Lettuce. Department of Horticulture/Plant & Soil Science, California State Polytechnic University, 3801 West Temple Avenue, Pomona, CA 91768, USA.