LETTUCE (Lactuca sativa)



Lettuce(Lactuca sativa)

Family : Compositae

Chromosome No. : 2n=16,18

Origin : European-Siberian

- Most important salad crop
- Occupy maximum area under salad vegetables.
- Temperate vegetable but also grown in tropical and subtropical climates of the world
- > Tender leaves and heads are consumed as salad after chopping
- > Rich in vitamin A, Ca and Fe.

Types of Lettuce

1. Head type (L. sativa var. capitata)

I. Butter head type:

- Produces relatively small & loose heads.
- > The outer leaves are green in colour
- Inner leaves are creamy or yellow which are oily, crumpled & soft texture.
- They do not withstand shipping and handling.

II. Crisp head type:

- Popular in North America & European countries
- > Brittle textured a tightly folded large heads (upto 1 kg).
- Excellent shipping & handling abilities.
- Leaves are wrinkled, non-wrapped and round.
- > The outer leaves are green and inner leaves are very thin, crisp & soft.

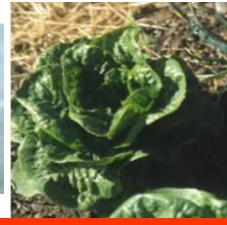




2. Leafy or bunching type (L. sativa var. crispa)

- Non-heading type.
- Colour of leaves varies from light green to red.





3. Cos or romain type (*L. sativa* var. *longifolia*)

- Plants are straight growing and about 25 cm in height
- Produces elongated leaves to form a loaf shaped head.
- The outer leaves are slimy & light green coloured
- Inner leaves are finer & light in colour.
- Coarse leaves with good eating quality.



4. Asparagus or stem type (*L. sativa* var. *asparaginia*)

- > Also known as celery lettuce.
- Produces thick stems which are consumed either raw or cooked as vegetable after peeling.
- > The leaves are also edible but inferior in quality than other types.





Mixture of different types of lettuce

Varieties

White Boston : Butter head type

Dark green : Butter head type

Green lakes : Crisp head type

Great Lake, Imperial 859: Crisp head type

Slobolt, Chinese Yellow: Leafy type

PH-Lettuce : Stem type

For H.P.

Alamo 1 : Head type.

Simpson Black Seeded : Leafy type.

Eves Wonder : Heading type.

Ruby : Leafy &purple

Climate

- > Cool season vegetable.
- > Requires a monthly average temperature of 12-15°C.
- > Seeds become dormant & fail to germinate when the soil temperature is above 22-30°C.
- ➤ Temperature above 22°C promotes bolting causing bitterness in leaves & accelerate the development of tip burn and rot.
- ➤ Hot, rainy or humid weather is also not favourable as it causes rotting of head lettuce.

Soil

- > Thrives best on well drained sandy loam soil rich in organic matter.
- Sensitive to high acidity.
- > pH 5.8-6.6
- ➤ About 2-3 ploughings followed by planking is essential to get the soil friable and leveled.

Seed rate

400-500 g/ha Leafy type is sown directly in the field

Spacing

45 x 30 cm

Planting time

N.I. Plains: September-October of nursery

Low hills: September-November

Mid hills: September-October

High hills: March-July

Manures & Fertilizers

FYM (q/ha)	N	P ₂ O ₅	K ₂ O
	(Kg/ha)		
100	60	40	40

Method of application same as other leafy vegetables

Irrigation

- Immediately after transplanting
- Subsequently, irrigate the crop at an interval of 8-12 days.

Interculture & weed control

- Shallow hoeing & weeding are essential to keep the field free from weeds & to maintain proper aeration.
- About 3-4 hand weedings at 15-21 days interval are sufficient.
- Pre-transplant application of Fluchloralin
 ① 1.0-1.5 kg/ha effectively controls most of the weed.

Harvesting

- Harvest when the leaves attain full size but remain tender.
- Head type var. takes 60-70 days to harvest.
- Heads are harvested when they attain a good size & become solid.

Yield

Head type: 100-140 q/ha

Seed production

Isolation distance: 25 m

PHYSIOLOGICAL DISORDER

Tip burn

Tip burning of the lateral margins of the inner leaves of mature heads.

Reasons:

- © High temperature, light intensity & long duration
- © Excess N
- © Ca & B deficiencies.
- © High Mn content.

Management:

© Spray the crop with CaCl₂ @ 0.5%

Big vein



DISEASES

Damping off, Root rot, Downy mildew, Bacterial rot, Lettuce mocaic, Big vein (soil borne viruses), fungus *Olpidium*

INSECTS

Aphids: Spray oxydemeton methy@0.025% or malathion@ 0.05%

Thank You