

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 weeding at 15-21 days interval are sufficient.**
- 😊 **Pre-transplant application of Fluchloralin @ 1.0-1.5 kg/ha effectively controls most of the weed.**

Harvesting

- ☀️ **The leafy var. become ready for harvesting within 50-60 days of sowing**
- ☀️ **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 CaCl_2 @ 0.5%



DISEASES

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

INSECTS

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

Thank You