

**LEC .32 PLUMS AND PRUNES - SOIL, CLIMATE, PLANTING,
VARIETIES, NUTRIENT AND WATER MANAGEMENT, SPECIAL
CULTURAL OPERATIONS, PHYSIOLOGICAL DISORDERS, PESTS AND
DISEASES, MANAGEMENT PRACTICES**

PLUMS Prunus sp. Family : Rosaceae

‘Prune’ – dried whole without fermentation (high sugar).

Production → Yugoslavia – tops in production
India, USA.

Area :

Sub-tropical plants of Punjab, Haryana, Uttar Pradesh to high hills of Himalaya in Himachal Pradesh, Uttar Pradesh, Jammu and Kashmir.

Great scope exists in NE

Himachal Pradesh, Jammu and Kashmir, Uttar Pradesh – important states.

Uses :

Rich in minerals, vitamins, sugars and organic acids, protein, fat and CHO₂'s
Jam, jelly, marmalades and pies.

Prune : Plum with high sugar content, dried **which** fermentation.

Dried plums used for chutney preparation

Wine and brandy from varieties of high sugar and sorbitol

Seed oil -40-50% - cosmetic and medicinal value.

Climate :

More and wide adaptability of many species and cultivars adapted to different ecology

Cold winters

Hot summer suitable

High rainfall

The chillingcan be compensated by environment and cultural practices.

Environment

- Warm winter - Bending branches with holding irrigation
- Light winter - reduce apical dominance
- Rain - summer pruning
- Chemicals spray, rootstocks

Climate :

Japanese plum – sensitive to frost (spring flowering) if no spring frost – good.

Rainfall :

As rainfed crop, 100-125 cm rainfall, well distributed throughout the year.

High wind velocity – not suitable

Hail prone areas – not suitable.

Soil :

Avoid water logged, poorly drained, very shallow soils with high salts.

Soil depth should be 1.5 m

High alkalinity (5 mg/100 g) + acidic soil → toxic, apply lime.

Origin

- European plum – Europe
- Japanese plum - China
- Cherry plum - Europe, West Asia
- American plum - N. America

Pollinizer should be planted in every 3rd row as 3rd tree.

One bee colony / acre – improves fruitset.

Flower initiation

Flower initiation in one season and flowering seen in the next year, flower development greatly affected by age of wood, position of bud on tree, temperature, water, CH₂O, N and others, PGR.

Flowering takes place on one year old shoot and 2 year old spurs.

Propagation

Cuttings – hard, semi-hard wood and soft wood

IBA treatment in winter, rooting in 4-6 weeks.

Clonal

Rootstock

Myrobalan 29°C, Myrobalan – 2261, GF 1246.

Peach - Suits to light soil, resistance to nematodes

Almonds - Suits to deep soil, but graft incompatibility

Apricot - high immunity to nematodes

Rootstocks seeds - dormancy problem is seen, so stratification is necessary @ 3-5°C.

Planting :

Rootstock vigour and soil fertility decides spacing.

Square system – suits to all situations.

Hexagonal system – fertile and expensive lands.

Training systems :

Branching at 1 m height is practiced

Training system depends on growth habit

Spreading type – open centre

Upright type – Central modified leader

Open centre – more common in Europe

Modified leader – more common in India

Other systems :

Hedge rows

Pyramid for mechanical farming

Palmette

Pruning

Intensity differs with varieties

Japanese plum – over bearing – heavy pruning

European plum – light pruning to renew old spurs.

Fruit thinning :

Increase fruit size

Increase colour and quality.

Reduce breaking of limbs.

Harvest

Total economic life span 25-35 years.

Maturity indices :

1. Colour development
2. Flesh firmness
3. Days after full bloom
4. TSS – 12.5°B for European plum
5. TSS/acid ratio – 12 to 15

Post-harvest management

For distance market → harvest in the early morning or in Afternoon and leave it for over night cooling.

CA storage O₂ – 2-3%

2-3 months

CO₂ – 2.8%