Introduction

- An important temperate zone fruit crop.
- Ranks next in importance to the peaches so far as its economic importance is concerned.
- Thrives well in the low hills and in the sub-mountainous tracts where high chilling requiring fruits can not be grown profitably.
- European countries are the largest producer.
USES

• Used either as fresh desert fruit or cooked.
• Also canned, dried and made into jam.
• Plums containing a high proportion of solids, particularly sugars, are preferred for drying and are known as prunes.
• Prunes are canned and used for the preparation of prune pulp and prune beverage.
• Prune pulp is used in ice-cream mix, confectionary products and meat sauces.
Origin & Distribution

• European plum originated in Europe and Japanese plum in China.

• **States:** J & K, H.P., Uttrakhand. Also grown to some extent in the Nilgiri hills of South India.

• In India, plum occupies an area of 14,280 ha with a production of 97,640 tonnes.

• In H.P., area under plum is 8,396 ha and production is 10,546 MT.
Botany

- Botanical Name: *Prunus domestica* (European plum)  
  *Prunus salicina* (Japanese plum)

Family: Rosaceae
# Recommended Cultivars

## High hills

<table>
<thead>
<tr>
<th>Early</th>
<th>Mid</th>
<th>Late</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweet Early, Methley, Kelsey</td>
<td>Starking Delicious, Satsuma*, Burbank, Elephant Heart</td>
<td>Mariposa</td>
</tr>
</tbody>
</table>

## Mid hills

<table>
<thead>
<tr>
<th>Santa Rosa, Beauty**, Early Transparent Gage</th>
<th>Frontier</th>
<th>Mariposa</th>
</tr>
</thead>
</table>

## Low hills & valley areas

<table>
<thead>
<tr>
<th>Alucha Purple, Titron</th>
<th></th>
</tr>
</thead>
</table>
Varieties for Dry temperate high hills and cold desert zone:

Stanley prune, Local Damsons are also dried like prunes.

Amogst plums, cvs. Queen Anu, Friar and Naubiana
Plums grown in the State generally belong to the Japanese group and require more chilling than peach and almond.

These are generally grown in low and mid hills of the state (1000-1600 m amsl).

European plums require 800-1000 chilling hours, whereas Japanese plums require 700-1000 chilling hours.

Plums are prone to spring frost injury.

Select relatively higher sites with good air drainage.

Northern slopes should generally be avoided except for Japanese plum cultivars.
Deep, fertile, well drained loamy soils - best.

European plum, however perform better on heavy loam and rich clayey soils

For prunes, soils particularly rich in potassium should be preferred.
Rootstocks

- Wild peach or wild apricot seedling rootstocks.
- Myrobalan B, a vigorous clonal rootstock.
- Other rootstocks: Pixie, St. Julien K
Propagation Method

- Tongue grafting: January–February
- Cleft grafting: January–February (Top working method)
- T-budding: May–June

Planting

- Distance: 6x6m
- Time: December – February. Early planting is desirable
Training and Pruning

- Open Center or Modified Central Leader System of training.
- Requires less pruning than peach.
- In case of Santa Rosa plum, 25-30% thinning of shoots + 1/3 to ½ heading back of shoots should be done.
Orchard Soil Management

- Atrazine or Diuron @ 4.0 kg/ha is effective in controlling weeds for 4-5 months in plum orchards.
- Oxyfluorfen @ 0.5 kg/ha or Diuron @ 2.0 kg/ha is effective in plum nurseries.
- The herbicides should be applied in the month of April as pre-emergence to weeds.
- For post-emergence, application of gramoxone @ 2 L/ha or glyphosate @ 800 ml/ha (700 L water is sufficient for one hectare) is used in orchards.
- Mulching of dry grass or hay 10-15 cm in thickness
- In orchards, where herbicides and mulching are used, 20 to 50 per cent economy in the use of nitrogen can be made and soil application of N, therefore, should be adjusted accordingly.
## Manure and fertilizers

<table>
<thead>
<tr>
<th>Age of tree (years)</th>
<th>FYM (kg)</th>
<th>CAN (g)</th>
<th>N (g)</th>
<th>SP (g)</th>
<th>P$_2$O$_5$ (g)</th>
<th>MOP (g)</th>
<th>K$_2$O (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>280</td>
<td>70</td>
<td>220</td>
<td>35</td>
<td>165</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>15</td>
<td>560</td>
<td>140</td>
<td>440</td>
<td>70</td>
<td>335</td>
<td>200</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td>840</td>
<td>210</td>
<td>660</td>
<td>105</td>
<td>500</td>
<td>300</td>
</tr>
<tr>
<td>4</td>
<td>25</td>
<td>1120</td>
<td>280</td>
<td>880</td>
<td>140</td>
<td>670</td>
<td>400</td>
</tr>
<tr>
<td>5</td>
<td>30</td>
<td>1400</td>
<td>350</td>
<td>1100</td>
<td>175</td>
<td>835</td>
<td>500</td>
</tr>
<tr>
<td>6</td>
<td>35</td>
<td>1680</td>
<td>420</td>
<td>1320</td>
<td>210</td>
<td>1000</td>
<td>600</td>
</tr>
<tr>
<td>7 &amp; above</td>
<td>40</td>
<td>2000</td>
<td>500</td>
<td>1560</td>
<td>250</td>
<td>1170</td>
<td>700</td>
</tr>
</tbody>
</table>
Method of fertilizer application

- Apply FYM during Dec.- Jan. along with P and K
- Apply half N in spring before flowering and remaining half N one month later, if irrigation facilities are available.
- Under rainfed conditions, N fertilizer should be applied in one lot about 15 days before bud brake.
- In case of Santa Rosa plum, application of 700 g K2O per tree should be applied.
- Apply 4/5 N through soil and 1/5 through foliage to get better response.
Irrigation

• The peak water use period is from middle of May to middle of June.
• The irrigation interval should be 12 days in May and 8-9 days in June.
• In all, 6 irrigations in a season are sufficient for plum orchards in mid-hill zone of the Pradesh.
Harvesting & Yield

• Season is June to July.
• Santa Rosa cultivar requires 94±3 days from full bloom to maturity.
• All fruits do not ripe at same time so many pickings are required.
• Handle the fruits carefully to avoid cuts and bruises.
• Yield: 8-10 tones per hectare.
<table>
<thead>
<tr>
<th>Grade</th>
<th>Fruit size (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special</td>
<td>42 and above</td>
</tr>
<tr>
<td>Grade I</td>
<td>36-42</td>
</tr>
<tr>
<td>Grade II</td>
<td>Below 36</td>
</tr>
</tbody>
</table>

Extra padding may be given for tight packing.
Plums can be stored for 2-4 weeks at a temperature of 0°C with 85-90% relative humidity.