Maximum elevation: 3000 feet for European plums, 2500 feet for Japanese plums

Optimum elevation: 1500-2000 feet for European plum; 500-1000 feet for Japanese plums.

Soil texture: Sandy loam, loam, slit loam, clay loam

Soil families: Holland, Sierra, Joesphine, Aiken, Cohasset, Sites, Musick, Shaver, Auberry are the better soil types

Acceptable drainage: Good for peach rootstock, fair for plum rootstock

Acceptable soil depth:
- Minimum - 2 feet
- Optimum - 4 feet

Slope: Neutral, south, southwest, west, east, slightly north

Row orientation: north to south is best for close in row tree spacing. Frost potential and steepness of slope would be overriding factors.

Water required: Inches per season (orchard with ground cover)

- 1000-1500=49 inches
- 1500-2000=44 inches
- 2000-2500=39 inches
- 2500-3000=36 inches
- 3000-3500=33 inches
- 3500-4000=31 inches

Add 10-15% for south, southwest slopes. Subtract 10 -15% for north, northeast slopes. Add 25-30% for extra heavy cover crop. Add 20-30% to all irrigations to account for system losses and inefficiencies.

Note: Most foothill soils store 1.5 to 2 inches of water per foot from winter rainfall. This water and any rainfall during summer can be subtracted when calculating irrigation needs.

Temperature contraints: 28°F at full bloom and 29-30°F when small green fruits. Japanese plums bloom in February several weeks ahead of European plums and therefore are subject to more spring frosts. Japanese plums may not pollinize during cool, wet weather. Hot summer temperatures may cause skin sunburn on Japanese plums and internal flesh injury on European plums, especially at lower elevations. Japanese plums should be planted on ridge tops to avoid frost problems.
Age:
To bearing - 4 to 6 years
Maximum bearing - 8 to 10 years
Prime bearing years - 9 to 20 years

Varieties:
European plums - Empress (Use President or Emily for pollination)
Japanese plums - Use late season varieties such as Kelsey, Queen Ann, Rosemary for the wholesale market. One or more pollinating varieties will be required.

Rootstocks:
Peach - where there is good soil drainage and little threat of oak root fungus or tomato ring spot virus.
Myrobalan or Marianna plum - on wetter sites and where oak root fungus exists. Use Marianna where tomato ring spot virus is a problem

Number of trees per acre: 200 to 400

Spacing: 10 x 16 to 15 square feet for Japanese varieties, 7-10 x 16 to 15-16 square feet for European varieties.

Irrigation methods:
Micro sprinklers
Portable sprinklers
Drip on nearly level ground

Yields
Fair - 4 tons per acre
Good - 6 tons per acre
Excellent - 10 tons per acre

Major disease: Brown rot, blossom blast (Pseudomonas syringae)

Persistent insect pests: Peach twig borer, leaf curl, plum aphid

Other common pests: Deer, meadow mice, gophers, birds

Culture:
Training - 2 leader, 3 leader, vase-Japanese varieties have variable growth characteristics; some varieties may benefit from tying over current season shoots between trees.
Weeds
1. Cultivation followed by moving.
2. Strip spray weeds in row centers and mow or plant perennial cover crop (dwarf stains of rye, fescue or orchard grass) in row centers or treat centers in late spring with Roundup (where micro sprinkler or drip irrigation is practiced).
Pruning
European-light annual thinning
Japanese-depends on varietal characteristics
Irrigation - Irrigation at 60 centibars on tensiometer (18 inch depth) before harvest and 70-80 after harvest.
Spraying - 2 to 4 applications per year.

Establishment Cost $ Per Acre
Fencing 0 - 400
Trees 800 - 1600
Irrigation System 400 - 1200
Materials 600 - 800
Labor 800 - 1200
Miscellaneous 100 - 600
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TOTAL $2700 - 5800

Equipment Cost: $ Per Farm
Part time farm (minimum) 1000
Full time farm New 50,000 - 80,000
Used 12,000 - 15000

Production Costs: $ Per Acre
Cultural 500 - 900
Harvest 200 - 300
Overhead ?

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TOTAL $700 - 1200

Annual Gross Income: $ Per Acre
500 - 8000