



GUIDELINES TO EVALUATE PEARS FOR COMMERCIAL PLANTING IN THE SIERRA NEVADA FOOTHILLS

Maximum elevation: 3,000 feet level terrain

Optimum elevation: 1,000-2,000 feet

Soil texture: Sandy loam, loam, slit loam, clay loam, loamy sand.

Soil families: Musick, Auberry, Josephine, Aiken, Holland, Shaver, Sierra, Sites, Cohasset are the better soils.

Acceptable drainage: Fair

Acceptable soil depth:

Minimum - 3 feet

Optimum - 4 to 5 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. Trees produce higher yields when pruned to allow sunlight to strike all sides of the tree.

Water needs/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 constraints: 28°F during bloom. 30°F small green fruit. Bloom date important as Asian pears bloom before European pears and European pears bloom ahead of most apples. Fruits quality and length of harvest season are best at 1500 to 2000 feet elevation. Ridge tops provide better overall climate than valleys under the foothill conditions.

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Age:

To bearing 5 to 7 years
Maximum bearing 10 to 11 years
Prime bearing years 10 to 60+

Varieties (in order of maturing):

European pears-Bartlett, Bosc ,El Dorado, Comice
Asian Pears- Shinsheiki, Housi, Twentieth Century, Shinko

Rootstocks:

European pears- winter Nelis seedling, Betulaefolia seeding

Number of trees per acre: 200. Spacing from 15' feet square to 12' x 18'

Irrigation methods:

Micro sprinklers
Under-tree permanent set sprinklers
Portable sprinklers
Drip on nearly level ground

Yields

Fair - 7 tons
Good - 10 to 12 tons
Excellent - 15 to 20 tons

Major diseases: Pear blight, pear decline, pear scab

Persistent insect pests: Codling moth, pear psylla, pear rust mite, two spotted mites, San Jose scale

Other common pest problems: Deer, gophers, meadow mice, birds

Culture:

Training_- 3 leader

Weeds - 1.Cultivation followed by mowing.

2.Spray weed strip in row, and mow row centers or plants
perennial cover crop(dwarf strains of rye, fescue, orchard grass) in row
centers.

Pruning - Annual removal of most season growth, renew spurs on 5 year rotation.

Irrigation - 8 to 12 sprinkler applications or at 60 centibars on tensiometer (18
inch depth) for sprinklers and 30 centibars for drip.

Spraying - 6 to 10 applications.

Establishment Costs:	\$ Per Acre
Fencing	200-400
Trees	800-800
Irrigation System	400-1200
Materials	700-1000
Labor	1100-1500
Miscellaneous	100-800

	TOTAL \$3300-5700

Equipment Cost:	\$ Per Farm
Part time farm (minimum)	1000
Full time farm	New 60,000-100,000
	Used 20,000

Production Cost	\$ Per Acre
Cultural	500-800
Harvest	200-450
Overhead	?

	TOTAL \$700-1250

Annual Gross Income:	\$ Per Acre
	700-3000

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