

Apricot at a glance

Botanical Name- <i>Prunus armeniaca</i> L.	Family- Rosaceae
Origen- China	Chromosome No X=8, 2n=16
Edible portion- mesocarp and endocarp	Fruit type- Drupe

- Wild apricot called as Zardalu is originated to India.
- It is commercially propagated by grafting and budding.
- Most of the apricot varieties are exotic origin.
- Wild apricot (*Chuli*) and peach seedlings are used as rootstock.
- Under heavy soils and irrigated conditions apricot on Myrobalam plum grows better.

Variety

Variety	Characters
New Castle	Suitable for cultivation in mid hills of Himachal Pradesh.
Early Shiply	Suitable for cultivation in mid hills of Himachal Pradesh and Uttar Pradesh.
Shakarpara	Suitable for cultivation in mid hills and dry temperate region of Himachal Pradesh and Kashmir.
Kaisha	Suitable for cultivation in high hills and dry temperate region of Himachal Pradesh and Uttar Pradesh.
Nugget	Suitable for cultivation in high hills of Himachal Pradesh.
Royel	Suitable for cultivation in high hills of Himachal Pradesh.
Suffaidda	Suitable for cultivation in high hills and dry temperate region of Himachal Pradesh.
Charmagz	Suitable for cultivation in high and dry hills of Himachal Pradesh, Kashmir and Uttar Pradesh.
Nari	Suitable for cultivation in high hills of Himachal Pradesh.
Baiti	Early maturing
Beladi	Early maturing
Farmingdale	Late maturing
Alfred	Late maturing
Moorpark	Suitable for cultivation in Uttar Pradesh.
Turkey	Suitable for cultivation in Uttar Pradesh and Kashmir.
St. Ambrose	Suitable for cultivation in Uttar Pradesh.
Chambattia	Suitable for cultivation in Uttar Pradesh.
Alankar	

Chaubattia Madhu	Suitable for cultivation in Uttar Pradesh.
Chaubattia Kesri	Suitable for cultivation in Uttar Pradesh.
Bebco	Suitable for cultivation in Uttar Pradesh.
Hilman	Suitable for cultivation in Ladakh region of Jammu and Kashmir.
Rakchakarpa	Suitable for cultivation in Ladakh region.
Tokpopa	Suitable for cultivation in Ladakh region.
Margulam	Suitable for cultivation in Ladakh region.
Narmu	Suitable for cultivation in Ladakh region.
Khante	Suitable for cultivation in Ladakh region.
Australian	Suitable for cultivation in Kashmir.
Rogan	Suitable for cultivation in Kashmir.

- Best time planting is dormant period (End December to Mid March).
- Apricot is trained on modified leader system of training.
- In apricot fully expended laves including petiole from middle of shoot current growth, early June to mid July from base of the current season growth at bloom stage.
- It can be stored at 0 °C for 1-2 weeks.
- Flower is simple bears on spur and occasionally on current season growth.
- It is a climacteric fruit.
- Fruit growth curve of peach is single sigmoid.

Cherry at a glance

Botanical Name- <i>Prunus avium</i>	Family- Rosaceae
Origen- Europe West Asia	Chromosome No X=8, 2n=16,24 and 32
Edible portion- Epicarp and mesocarp	Fruit type- Drupe

- Cherry is one of the important temperate fruit of the World.
- Methyl anthranilate and methyl salicylate are flavoring compounds and keracyanin chloride is a coloring agent found in cherry.
- Sour cherry (*Prunus cerasus*) is considered a cross between *P. avium* X *P. fruticosa* and used for canning and cooking.
- *Prunus avium* is diploid but occasionally triploid and tetraploid are also seen.
- It is propagated by tongue or whip grafting on wild cherry (*P. puddum*).
- It is grown in the coolest climates and at an altitude of about 1600 to 2700 M above the mean sea level.
- It is very sensitive to heat and cold.
- It is propagated by whip or tongue grafting.
- Paja (*Prunus cerasoides*), wild cherry (*P. cerasoides*) is a common rootstock of cherry show delayed incompatibility.
- Colt and Charger -Dwarf root stock.
- Mehlab (*P. mehlab*) - produce vigorous tree.
- Mazzard (*P. avium*) - produce dwarf tree.
- F12/1-Recommended for cherry in Himachal Pradesh.
- The both self and cross incompatibility is a major problem in cherry production.
- It can be stored at 0°C for fourteen days.
- It is trained on modified center leader system.
- The fully expended leaves, mid shoot current season growth during July -August were taken to diagnose nutrient management.

Sweet cherry-

Heart/Geans group

- (i) Light colored- Victor, Chio beauty, Governor, Wood and Sue.
- (ii) Dark red colored-Waterloo, Roundell Heart, Early Rivers, Senera, Ebony, Republican, Deocon, Lambert and Windosor.

The big bigarreus group

- (i) Light colored- Yelow Spanish, Napoleon, Emperor Frances, Florence.
- (ii) Dark red colored-Schmidt Buing, Black Heart and Tradescant s Heart.

Sour Cherry-

- (i) The Amarelles group (Light colored) - Early Richmond and Montmorency.

- (ii) The Morellos group (Dark colored) -English Morello, Liuis Philoppe and Flemish Red.

Duke cherries- Arch Duke, May Duke, Ronalds Late Duke and Royal Duke.

- Early Richmond and Montmorency are self fruitful cultivars of sour cherry.
- Cherry harvested during late spring and summer after full maturity of fruit is attained and fruits start to ripe.

Variety

Variety	Characters
Bing	Bing is the No. 1 sweet cherry grown today. It bears a red/mahogany fruit, plump and bursting with flavor. The juice is sweet and dark red in colour. Fruit firm with smooth flesh. The stone is relatively small, while the fruit itself is crisp, firm and juicy. Consumers enjoy its sweet, rich flavor, which is the reason that it's the dominant variety.
Chelan	The cherry is similar to Bing in appearance with mahogany red skin and medium to dark red flesh. Fruit is firm and flavorful.
Index	Good quality, mahogany red, firm fruit having large size, very good flavor, and an early to mid season ripening.
Sonata	The high quality cherry is black fleshed, sweet and flavorful. Fruit is very firm and very large, 9 row and larger with a shape similar to Van. The color is black with a beautiful luster making a nice pack. The flavor is acidic to moderately sweet.
Sandra Rose	Very large fruit with great flavor.
Rainier	Its skin color is golden yellow with a considerable amount of red blush. Its flesh color is clear. The fruit is very large, very firm and has a distinctly different flavor.
Lapins	A popular new variety from British Columbia; late season; fruit are reported to be large and of high quality. The fruit is firm with a mahogany-red skin and a lighter red flesh. Lapins produce a large cherry averaging 10 to 9 row in size. This is one of the best tasting varieties from the Summerland breeding program.
Black Republican	Fruit medium sized, good quality, very dark red turning black when fully ripe. Not a commercial cultivar for the fresh market. Primarily used as a pollinator for other sweet cherries. Excellent for culinary needs - texture is similar to pie cherry, but has a richer sweet flavor.
Montmorency	It is the standard pie cherry for commercial and home planting. It bears early and is very productive with medium-large bright red fruit, good quality and flavor. The trees need very little disease control if kept open to sun. It ripens in mid to late-July.
Atlika (Kordia)	Originating in Czechoslovakia, this attractive, large black cherry blooms late and is good for the fresh market. It bears good quality

Kiwi Fruit at a glance

Botanical Name- <i>Actinidia deliciosa</i> Planch	Family- Actinidiaceae
Origen- China	Chromosome No X=29, 2n=174
Edible portion- Mesocarp	Fruit type- Berry

- Kiwi fruit was known as chinese gooseberry (*Actinidia deliciosa*) in the majority of the countries until, 1960.
- It is a national symbol of New Zealand.
- Kiwi fruit is a deciduous vine fruit crop.
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- Seed requires stratification (4.0° C for 6-8 months) for germination.
- Kiwi fruit is commercially propagated by cutting (stem and root).
- Kiwi fruit is functionally dioecious and female flowers have infertile pollen.
- Flower borne on current season growth and on one year lateral cane.
- The best method of kiwi fruit training is pergola.
- It follows triploid growth curve.

Variety

Variety	Characters
Monty	Late flowering and maturity period is short, prolific bearer and higher acidity and medium sugar blend.
Hayward	It was developed as chance seedling by Hayward Wright.
Bruno	Longest fruit in India, low chilling requirement and bearing is better.
Allison	High yielder, suitable for low hills, sweet ascorbic acid and acidity is low.
Abott	Early variety, medium size fruit and covered with dense hair and low chilling requirement and can be successfully grown in mid and foot hill region.
Tamuri	Male cultivar used as pollinizer.
Motua	Male cultivar used as pollinizer.

	large fruit with juicy, firm, dark red flesh. The fruit is very firm and has a long stem and an elongated pit.
Van	Late mid-season; fruit is medium large, good quality, shiny, reddish black, very firm, quite susceptible to cracking. This late-season cherry is appreciated for its refreshingly sweet taste and deep red color.
Skeena	The flavor is strong and of high quality. The fruit is large, similar in size, or slightly larger than Lapin. The flavor is good with a sweet/acid taste and a slight tang.
Regina	Regina is a new sweet cherry from Germany. The large fruit is exceptionally firm. Skin is dark red and flesh is about one shade lighter in color with sweet-tart flavor.
Sweetheart (135-22-8)	Very late; Van cross from Summerland, B.C.; productive, medium to large fruit, very good firmness and good tart-sweet flavor. The cherry is round.

- The leaf spot is most dreaded disease of cherries especially in the sour types.
- The serious pest of cherry is Cherry black fly (*Myzus cerasi*).

Loquat at glance

Botanical Name- <i>Eriobotrya japonica</i>	Family- Rosaceae
Origen- China	Chromosome No X=17, 2n=34
Edible portion- Fleshy thalamus	Fruit type- Pome

- Loquat is indigenous to Southern China and its English name derived from the Chinese *Juju* although it is better known there as *pipo*.
- It is also called as Japanese plum.
- Loquat is a favorite fruit in Japan.
- The sub family of loquat is pomaceae.
- Loquat is extremely popular in China because it is the first tree fruit of the season ripening around the popular Spring Festival.
- The loquat is a large evergreen shrub or small tree with a rounded crown, short trunk and woolly new twigs.
- Loquats are easy to grow and are often used as an ornamental.
- Their boldly textured foliage adds a tropical look to the garden and contrast well with many other plants.
- It is shallow root system plant.
- Fruit can be consumed fresh or processed and can be used for jam, juice, wine, syrup or as candied fruit.
- Seeds are rich in starch (20%) and have been used to make wine.
- Loquat is highly nectariferous, with a heavy fragrance and has high honey potential.
- Its wood is pink, hard, close-grained and medium heavy, and highly prized by furniture makers.
- Leaves and fruit of loquats have traditionally been considered to have high medicinal value and there is evidence of pharmaceutically active compounds.
- The ether-soluble fraction of the ethanolic extract of the leaves showed anti-inflammatory activity when applied topically to rats.
- An alcoholic extract has been shown to exhibit anti-inflammatory and hypoglycaemic effects.
- Loquat fruits, growing in clusters, are oval, rounded or pear-shaped, 1 to 2 inches long with a smooth or downy, yellow or orange, sometimes red-blushed skin.
- The tree is cold hardy to -10 °C but fruits are damaged at -3°C.
- The suitable climate for its production is Mediterranean climates.
- Each fruit contains three to six large brown seeds.

- Loquat is commercially propagated through inarching.
- Loquat is also trained on modified leader system of training
- Loquat flowers from September to January under subtropical conditions.
- The type of inflorescence is Panicle
- The type of incompatibility found in loquat is gametophytic.
- The loquat is normally pollinated by bees.
- Some cultivars are self-infertile and others are only partially self-fertile.
- Two to three cultivar planted together give high yield.
- Flowers of the early and late flushes tend to have abnormal stamens and very little viable pollen.
- Thinning of flowers and young fruits in the cluster, or clipping off all or part of flower and fruit clusters is sometimes done to enhance fruit size.
- Under moist conditions the loquat tends to develop an alternate-bearing pattern, which can be modified somewhat by cluster thinning in heavy production years.
- For the highest quality fruit the clusters are sometimes bagged to protect from sunburn and eliminate bird damage.
- The maturity standards in loquat are fully matured and well colored fruits with TSS above 9%.
- Fruit harvest with a small portion of the shoot should also be harvested with sharp secateurs.
- Separate the clusters as A and B grade.

Variety

Variety	Characters
Golden Yellow	Fruits medium in size, oval to oblong in shape, golden yellow in colour, medium pulp, pale orange, smooth and soft, mild taste, sub acid and few seeded. Suitable for cultivation in Uttar Pradesh, Uttrakhand and Himachal Pradesh.
Improved Golden Yellow	Fruits large, oval to pyriform, orange yellow in colour, smooth and crisp, mild taste, sub acid and few seeded. Suitable for cultivation in Uttar Pradesh, Uttrakhand, Punjab, Himachal Pradesh and Jammu Kashmir.
Large Round	Fruits medium in size, ovate globose, thin pulp, creamy white in colour, course and firm, mild taste, sub acid and few seeded. Suitable for cultivation in Uttar Pradesh, Uttrakhand, Punjab and Himachal Pradesh.
Pale Yellow	Fruits large, oblong to pyriform in shape, cream in colour. Thin pulp, creamy white in colour, smooth and melting, pleasant taste, sub

	acid and moderately seeded. Suitable for cultivation in Uttar Pradesh, Uttrakhand, Punjab and Himachal Pradesh.
Fire Ball	Fruits small in size, oblong to obviate in shape, saffron yellow in colour, thick pulp, corn husk in colour, smooth and crisp, taste mild sub acid and moderately seeded. Suitable for cultivation in Uttar Pradesh, Uttrakhand, Punjab and Himachal Pradesh.
Improved Pale Yellow	Fruits are medium in size, oblong to ovate, in shape, medium to thick pulp, pale orange in colour, smooth and firm, pleasant taste, sub acid and moderately seeded. Suitable for cultivation in Uttar Pradesh, Uttrakhand, Punjab and Himachal Pradesh.
Large Agra	Fruits are medium in size, oblong to ovate in shape, medium to thick pulp, pale orange in colour, smooth and firm, pleasant taste, sub acid and moderately seeded. Suitable for cultivation in Uttar Pradesh, Uttrakhand, Punjab and Himachal Pradesh.
Mammoth	Fruits are small in size, oblong to pyriform in shape, snow shine in colour. Medium pulp, orange in colour, course and granular, pleasant taste, sub acid and few seeded. Suitable for cultivation in Uttar Pradesh, Uttrakhand, Punjab and Himachal Pradesh.
Matchless	Medium pulp, orange in colour, course and granular, pleasant taste, sub acid and few seeded. Suitable for cultivation in Uttar Pradesh, Uttrakhand, Punjab and Himachal Pradesh.
Safeda	Fruits large in size, oblong to pyriform in shape, thick pulp, creamy white in colour, smooth and melting, excellent taste, sub acid and moderately seeded. Suitable for cultivation in Uttar Pradesh, Uttrakhand, Punjab and Himachal Pradesh.
California Advance	Fruits are medium in size, oblong to pyriform, pale yellow in colour. Thick pulp, smooth, melting excellent taste, sub acid and few seeded. It is a good polarizer for Golden yellow and Pale Yellow cultivars. Suitable for cultivation in Uttar Pradesh, Uttrakhand, Punjab and Himachal Pradesh.
Tanaka	Fruits are small in size, ovate in shape, orange in colour. Medium pulp, course and firm, pleasant taste, sub acid and few to moderately seeded. Suitable for cultivation in Uttar Pradesh, Uttrakhand, Punjab, Himachal Pradesh and Jammu Kashmir.

Peach at a glance

Botanical Name- <i>Prunus persica</i>	Family- Rosaceae
Origen- China	Chromosome No X=8, 2n=16
Edible portion- Mesocarp and epicarp	Fruit type- Drupe

- Prunacin is the principal glycoside present in the pulp of peach.
- Amygdalin is a glycoside present in seed.
- Among the organic acid in the pulp malic acid is the dominant followed by citric acid and quinic acid.
- The yellow and orange color of peach is due to anthophylls.
- Red blush in some cultivars due to anthocyanins.
- Low chilling peaches are grown inn submountainous region and Punjab, Haryana, Delhi and Western Uttar Pradesh.
- Peaches required humid climate with cold winter and dry summer.
- Nectarines are soft skin mutants closely allied to peach.
- Nectarines are a non pubescent (fuzzless) peach with smaller size fruits.
- Sun red is cultivar of nectarine.
- Among the temperate fruits, Peach required lowest chilling requirement and is earliest in flowering.
- Peaches required severe pruning intensity.
- It is trained to open centre system.
- GF-557 and GF-677 are rootstocks of peaches.
- Grande Ferrade (GF) series of rootstocks are developed by Bernhard in 1965 by crossing Peach and Almond.
- Nemaguard, Nemared, Yunnan and Shalin are nematode resistant rootstock of peach.

Variety

Variety	Characters
Elberta	Large fruit, free stone, skin smooth, plae yellow and red splash colour, flesh yellow, fruit firm, juicy, sweet, and excellent quality.
Red June	Trees are medium in vigour, fruits are large in size, roundish with rounded beak in shape, distinct suture, yellow with red blush on the shoulder, free stone and early season maturity.
Paradelux	Trees are medium in vigour, fruits are large in size and oblong flat with prominent beak in shape, yellow skin and flesh and late season maturity.

July Elberta	Trees are medium in vigour, male sterile, hardy, high yielder. Fruits are large in size, round in shape, skin dull red blushed over yellow base, free stone and early to mid season maturity.
Sun Haven	Trees are medium in vigour, fruits are medium to large in size, yellow fruit skin, semi free stone and early season maturity.
Crest Haven	Produces top notch freestone fruit with golden yellow skin and flesh. Mid to late season variety, blooms late, fruits lasts well on the tree. Excellent for freezing and canning.
Red Haven	Trees are medium in vigour, fruits are medium to large in size, roundish ovate in shape, red purple yellow skin colour, free stone, mid to late season maturity.
Glo Heaven	Large size fruit, yellow free stone, flesh has mostly red skin with no fuzz, milder flavour, excellent for canning and fresh eating and free stone.
Snow Queen	Trees are spreading and vigorous, fruits are small to medium in size, bright red colour on cream white background having smooth surface, flesh white, cling stone, maturity during mid June.
J. H. Hale	Trees are medium in vigour, self unfruitful (male sterile), fruits are medium to large in size, roundish ovate in shape, red purple yellow skin colour
Sun Red	Trees are low in vigour, fruits are small to medium in size with bright red skin, semi free stone and early season maturity. Excellent quality for dessert.
Fantasia	Vigorous tree, fruits are large ovate in shape, bright yellow with red blush over the major part of the skin and early to mid season maturity.
Shan-e-Punjab	Low chilling requirement, matures in first week of May, fruits very large, yellow with red blush, juicy, sweet, free stone, excellent in taste and suitable for canning.
Florida Sun	Excellent mid season (First week of June), table peach, fruit large, almost red at maturity, juicy, white flesh and free stone.
Kanto-5	Mid season cultivar of Himachal Pradesh.
Shimizo	Mid season cultivar of Himachal Pradesh.
Hakuto	
Florida Red	Introduced from Florida.
Prabhat	Earliest mature (mid of April), high yielder, fruits medium in size, bluish and yellow with red blush, flesh yellow, juicy, sweet and

	free stone
Saharanpur Prabhat	It is cross between Sharbati x Florda Sun, low chilling requirement and developed Saharanpur (Uttar Pradesh).
Sharbati	Low chilling requirement, mid season (mid June -mid July), fruit large, greenish yellow with rosy patches, very juicy with excellent taste and flavour. earliest mature (mid of April),
Early Grande	Matures in first week of May, fruits large with red blush surface, flesh yellow, firm with soe red colour next to tip,
Florda Prince	Low chilling requirement, matures in last week of April, fruits medium to large, round with little or no tip, red bush with yellow ground colour, flash melting, yellow with some red colour, semi cling and high yielder.
Florda Sun	low chilling requirement
Pratap	It matures in first week of April. Fruits are yellow with red blush. Flesh is also yellow with red colouration. It has better firmness and keeping quality.

- Tatura Trellis system of high density planting at spacing 6x1m is practiced in peach and increase yield upto three times as in traditional system.
- The attractive pink color flowers are born in advance of leaf emergence after completion of winder dormancy.
- The mid shoot leaves, from fruiting and non fruiting spurs during September are taken for tissue analysis for nutrient management.
- Flowers are solitary normally sessile or short stalked, borne on one year old shoots.
- For production of uniform fruit regularly the thinning of fruit is essential in peach.
- The best ration of leaves and fruit is 30-40: 1.
- It is a climacteric fruit.
- Fruit growth curve of peach is double sigmoid.
- Sunscald causes severe damage to the exposed trunk and main scaffold branches.
- It can be stored at 0 ° C, 85-90 % relative humidity for 28-36 days.
- San jose scale (*Quadraspidotus pericosus*) infest apples, pears, peaches, and plums.