



Core Skills Educational Banner 1: Grafting & Budding

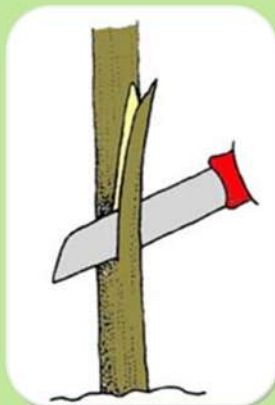
Grafting: A technique of uniting two, sometimes three plants so that they grow as one. Symbiosis between two varieties where both of them can significantly influence growth, reaching the bearing stage, productivity, maximum age of the tree, etc.

Rootstock: The bottom part of a graft that is in contact with the soil and is not allowed to produce side shoots. The rootstock (or stock) is the seedling or plant used as the bottom half of the graft.

Scion: The part of the plant that makes the top part of a graft and grows to become the desired shoot. The scion is newly installed shoot or top of the plant.

Compatibility: Graft compatibility is the ability of scion and rootstock to accept each other and be joined as one.

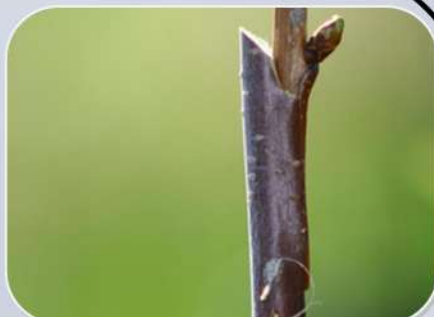
Side Grafting



Side Graft: Select a smooth place on the rootstock branch then cut the bark from the trunk. Make a slanting cut at a narrow angle almost to the pith. Cut the scion to a short, sharp wedge and push it to the cut place of rootstock.



Core Skills Educational Banner 2: Grafting



Whip & Tongue grafting

Whip & Tongue Graft: Preferably the scion should be the same diameter as the stock, but if it is smaller, it is important to place the scion over to one side of the stock, rather than to the center.



Cleft Grafting

Cleft grafting: Insert the scion into the cleft, the lowest bud on the outside of the scion should be placed just above the cleft, making contact between cambium layers of the stock and scion. Tie the graft with a grafting tape.



Bark Grafting

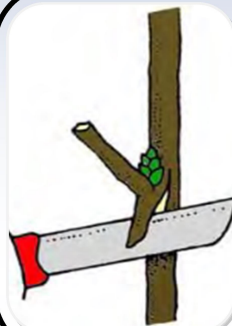
Bark grafting: Cut the trunk or branch off with a clean cross cut at the point you wish to graft the new scion wood. With bark grafting you do not need to split open the stock as with a cleft graft.



Core Skills Educational Banner 3: Budding



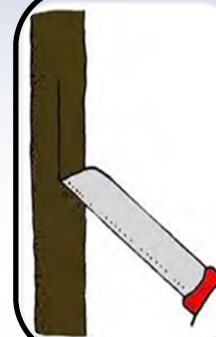
1- Choose a healthy bud wood. Leaf blades come out from the bud wood.



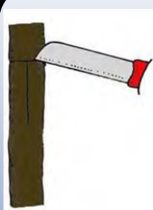
2- The bud and **small** sliver of wood are cut from the stick using an upward slicing motion. The cut should be 1 cm below the bud, and should go deep enough into the wood so that when the cut is finished about 1 cm above the bud, the bud and small sliver of wood are cut off.



3- A perpendicular cut across the top of the upward cut will separate it from the bud wood.



4- A vertical cut is made on the stem of the rootstock. The cut should be deep enough to ensure the bark will separate at the cambium.



5- The "T" is crossed. A perpendicular cut is made at the upper end of the vertical cut to make a T



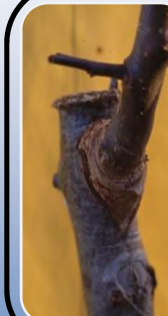
6- The bark is carefully slipped from the stem exposing a "pocket" into which the bud shield can be placed. Take care not to tear the flaps of the bark in the process of spreading them.



7- The bud shield is carefully slipped between the bark flaps. The top of the bark strip on the bud shield is trimmed to fit tightly against the horizontal cut so that the bud fits within the "pocket" snugly.



8- The bark flaps are held tightly against the bud as they are wrapped with budding rubber or grafting tape. The wrap must be removed within 2-3 weeks or when signs of a successful union/s are apparent, whichever comes first.



8- In August of first year we have a successful T-bud graft.



Core Skills Educational Banner 4: Selection of Scion for your Rootstocks

Some varieties of fruit trees are available in Afghanistan and are being currently preserved in the National Collection. They are physically available at Perennial Horticulture Centers, for grafting on your rootstocks. These are good varieties with high yields. To get a scion wood of these varieties for grafting your fruit trees, contact agricultural experts in organizations such as Afghan National Horticulture Development Organization (ANHDO) that has a project called Perennial Horticulture Development Project (PHDP). Afghanistan National Nursery Growers' Organization (ANNGO) can also help you in order to find the right variety for your fruit trees.



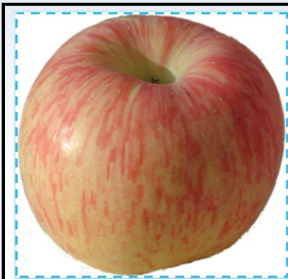
Variety Name: it is a Pakistani variety, flowering time is early and the ripening time is early. Main characteristics are medium size, vary sweet and stringent.



Variety Name: Sorkhak 859, flowering time is 2nd to 4th week of April and it is ripening in 2nd week of October. The fruit color is red the seed color is rose white and the seed hardness is medium hard, the fruit size is 100 mm, the skin thickness is 8 mm the average fruit weight is 350 mg with sweet flavor.



This variety of apple is Saturn 7235 which is blooming time is 3rd to 4th week of April and the ripening time is 4th week of August. The average size of fruit is big fruit color is yellow with light pink with appreciated flavor and very good fruit size



Variety name of this apple is Fuji 7237 which is flowering in 3rd to 4th week of April and the ripening time is 3rd week of September. The average fruit size: medium large with yellow color and light pink strips on it. The fruit shape is globose at over all it is creamy white flesh, dense, juicy and crispy, low acidity, sweet



Variety Name: Amiri 276, flowering time is 3rd to 4th week of March and it is ripening time: 3rd week of June, the average fruit size is big with yellow green color fruit shape is elliptic and kernel taste is sweet So it is a late ripening Afghan variety, very sweet, light yellow flesh



Variety name: Shakarpara 250, the flowering time is 2nd to 3rd week of March it is ripening 2nd week of June. This average size of fruit is small with yellow green color and fruit shape is circular. At over all its very sweet, small fruit size and the kernel taste is sweet



Variety Name: Fazal Manani 6222, flowering time is 3rd to 4th week of March and the ripening time is 3rd week of June. It is a medium size with red color and round shape.



Variety name: Tor Kandahari, flowering time is early and fruit ripening is early as well. main characteristics (large tree, early variety, not good market)



Variety name: Lapins 7224, in the 4th week of April it is flowering and it is ripening in first week of July. Fruit size is large and, skin color is dark red and flavor is sweet and it is compatibility self fertile.



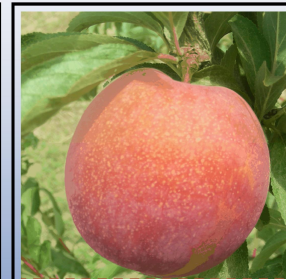
This variety of orange name: Moro 7009, it is flowering in 4th week of March to 2nd Week of April and it is ripening very early. The average fruit size is medium to medium large with light pink blush, or red color streak at advance maturity. The fruit shape is round it has a few or none seeds. The flavor pleasant flavor. At over all it is more or perhaps the best known blood orange throughout the world



Variety name: Clementine SRA 89 7105, flowering time is 3rd week of March to 1st Week of April with very early ripening time. The average size of fruit is large with orange color, fruit shape is spheroid shape, slightly flattened at the top. It is seedless or few seeds with sweet flavor. It is early maturing, thin and easy peeling



Variety name: Asadi 2000, it is flowering in 4th week of March to 2nd week of April and it is ripening in 2nd week of June the average fruit size is medium the color of fruit is red. The shape is elliptic it is recommended for local market



Variety Name: Formosa 255, flowering time is 3rd to 4th week of March and it is ripening in 1st week of July. The average fruit size is large with red color and ovate shape at over all flesh is yellow and firm, exciting color



Variety Name: Abdul Wahidi 153, 1003, blooming time is 2nd to 4th week of March, ripening time is 1st week of July, kernel size is big and kernel color is red brown, kernel shape is narrow elliptic, shell type is thick and the nut has long length and fine with, kernel color is light brown and has good market