



Mt. San Antonio College

Agricultural Sciences Department
AGOR 2 - Plant Propagation

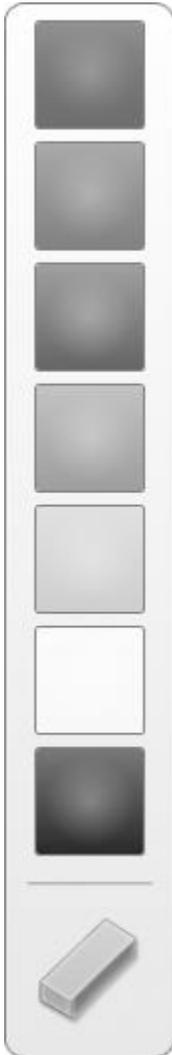
11.- TECHNIQUES OF GRAFTING AND BUDDING

REVIEW 5 IMPORTANT CONSIDERATION FOR SUCCESSFUL FOR GRAFTS

1. The stock and scion must be compatible.
2. The cambial region of the scion must be in intimate contact with stock.
3. Grafting must be done at a proper time.
 - Scion when buds are dormant.
 - Collect deciduous and place in plastic bag or shavings in refrigeration.
 - Rootstock beginning active growth.
4. Immediately after the grafting is finished all cut surfaces must be protected from drying out, cover graft union with tape or budding rubbers.
5. Proper aftercare
 - Remove tape or rubber band once it has taken.
 - Prune rootstock.

Selecting Scion Wood.

1. For most species should only 1 year old.
2. Select healthy well developed vegetative buds.
 - Vegetative are narrow and slender.
 - Flowering are round and plump.
3. Discard tip - Best scions are obtained where carbohydrates are highest.
4. Take from pathogen free or disease free plants.
5. Wrap in wet paper towels - when collecting in morning



TYPES OF GRAFTS

1.- Cleft Graft. (Top working in field)

- a) Stock and scion can vary greatly - used for top working.
- b) Cut clean - grafting wedge.
- c) Scion 3- 4 " long.
- d) Sloping wedge - about 2" long.



TYPES OF GRAFTS

2.- Side Graft. (Bench grafting)

- a) Advantage - Leave upper part of rootstock for carbohydrate production. Snap and leave on (called the nurse branch) .

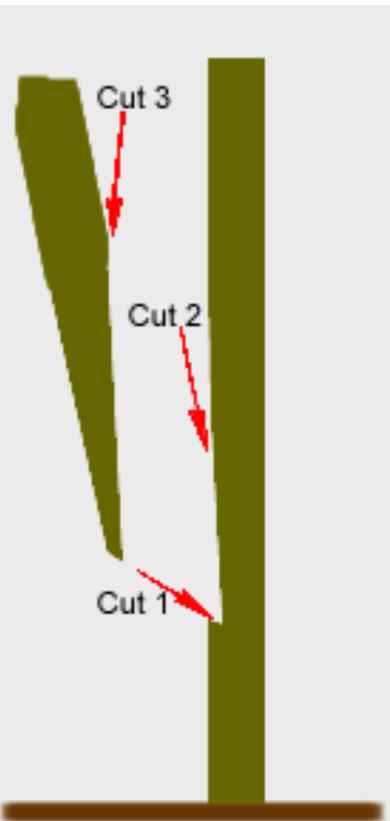
Liquidambar, magnolias, loquats.



TYPES OF GRAFTS

3.- Side Veneer Graft. (Bench grafting)

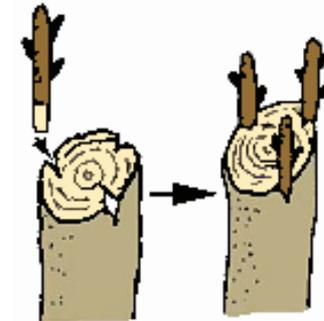
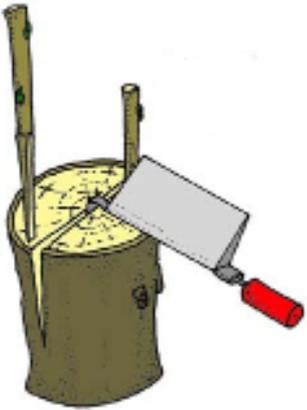
a) Used for conifers and shrubs.



TYPES OF GRAFTS

4.- Saw-kerf Graft. sometimes called wedge graft) Bench grafting. Cuts made with saw hence the name Saw-kerf.

a) Large limb 6' insert 3 scions on wedge.



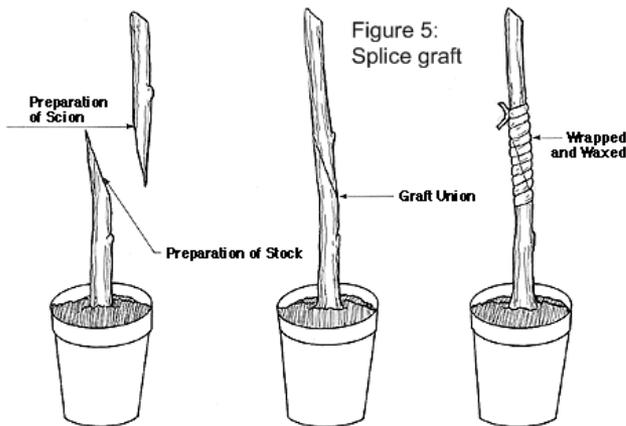
wedge, notch or saw-kerf graft



TYPES OF GRAFTS

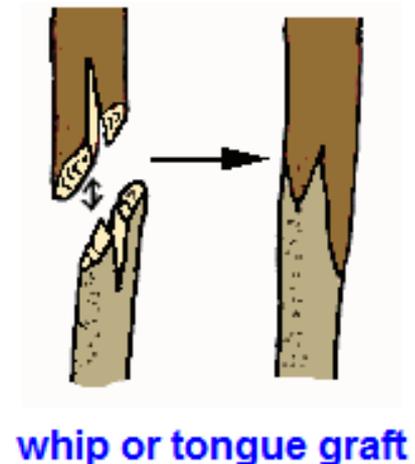
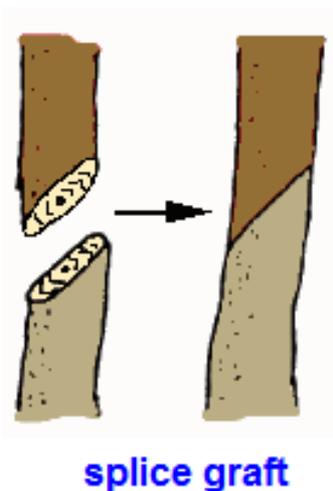
5.- Splice Graft. Container grafting

- a) a method of grafting by cutting the ends of the scion and stock completely across and obliquely, in such a manner that the sections are of the same shape, then lapping the ends so that the one cut surface exactly fits the other, and securing them by tying or otherwise.



6.- Whip Graft. Bench Grafting

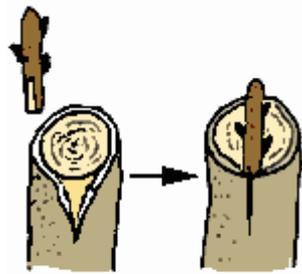
- a) similar to splice grafting, except that a cleft or slit is made in the end of both scion and stock, in the direction of the grain and in the middle of the sloping surface, forming a kind of tongue, so that when put together, the tongue of each is inserted in the slit of the other.



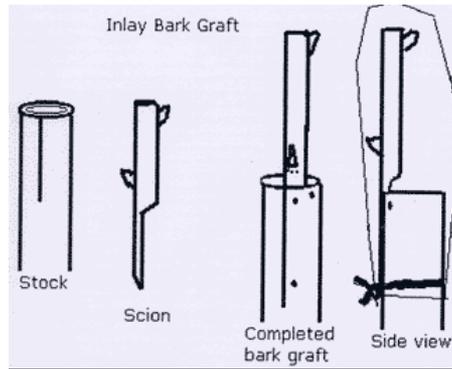
TYPES OF GRAFTS

7.- Bark Graft (Rind graft) . Top working Field

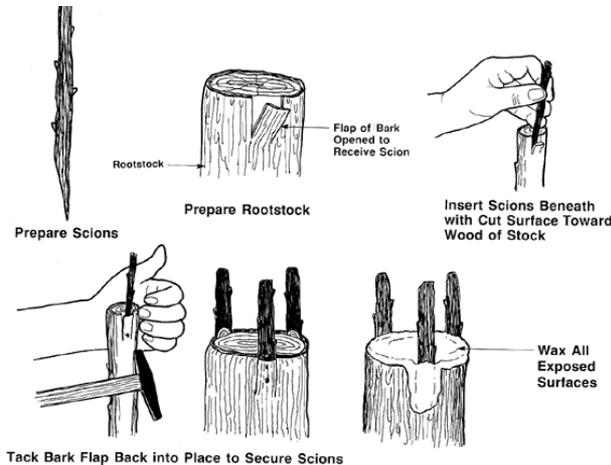
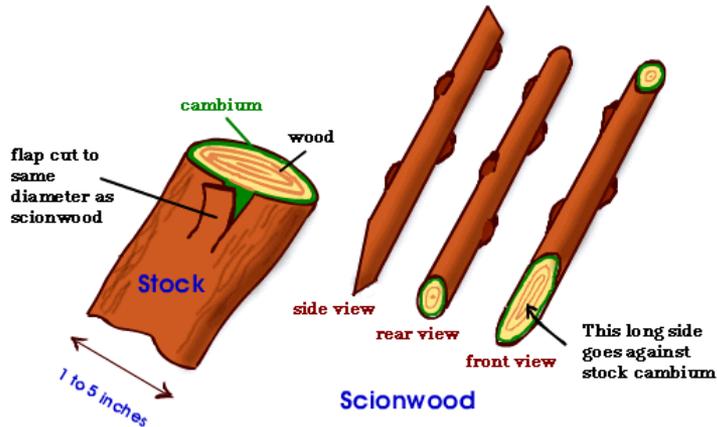
- a) Take piece of bark off. (Bark must be slipping)
- b) Insert scion - Nail scion.
- c) Like side veneer - weak union.



bark or bark inlay graft



Bark Grafting



TYPES OF GRAFTS

8.- Cutting Graft. Using 2 stem cutting, on rootstock and one scion, grafting it then putting it under mist to root (rootstock and heal graft.

Clonal dwarfing rootstock, conifers, rhododendrons, macadamias, apple plum, pear, roses in Netherlands (stenting) (splice graft most common).

TOOLS.

Sharpen knives at 20° angle.

Budding bands (tape).

Be careful of girdling (remove once it has taken).

Cut out sucker from rootstock.

In Lab:

Be careful with knives.

If you cut yourself let me know.

If you wound, we can send you to the school nurse.

9.- Sandwich Graft.

Roses, Dr. Huey
(rootstock), La
Griffe
(interstock),
desire rose
(scion).

3 different
plants used.

CARE AFTER GRAFTING

1. Inspect graft 3 -5 day after to make sure graft is cover, moist, don not let it dry out.
2. Remove ties to prevent girdling.
3. Remove suckers or water sprouts arising from below graft.
4. If you use two scions one should be removed, select the best and strongest growing scion.
5. If new scion grows too vigorously will become top-heavy and break.
 - Prune it back
 - Cut lateral branches to about 2 - 3” to increase caliper.
6. Replant after summer season.



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AGOR 2 - Plant Propagation

TECHNIQUES OF BUDDING

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- 1) On scion only one bud is used.
- 2) rose budders can do 2,000 - 3,000 per day; 400 - 500 on citrus.
- 3) Easy to obtain cambium contact.
- 4) Used where large number of plants are required.
Roses, fruit trees, shade trees, avocados.
- 5) Usually confined to young plants.
Stock is about one year old, planted last summer.
- 6) Easier to teach than grafting.

MAYOR CRITERIA:

- ✓ Most common bark must be slipping.
- ✓ Common mistake is to peel bark and cambium both back.
June July, August.

TECHNIQUES OF BUDDING

DORMANT BUD-ON SCION.

- ✓ Should not be greatly different in size.
- ✓ Be fresh on evergreen (same day)- citrus.
- ✓ Deciduous - store in refrigerator for months.

USES OF PETIOLES:

- ✓ To protect bud.
- ✓ Use as a petiole.
- ✓ Test 3 - 21 days is bud has taken, petiole will drop off.

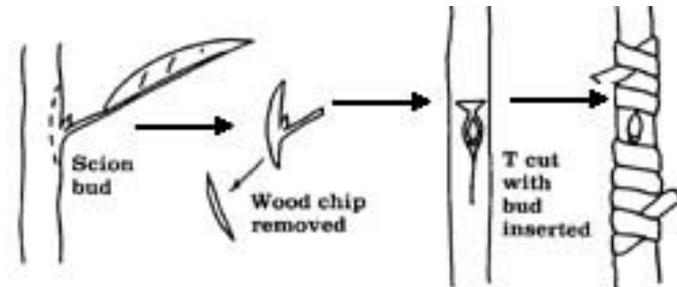
TECHNIQUES OF BUDDING

1.- T Budding.

- a) Most common.
- b) Vertical cut about 1" long.
- c) Lift corners.

Preparing bud.

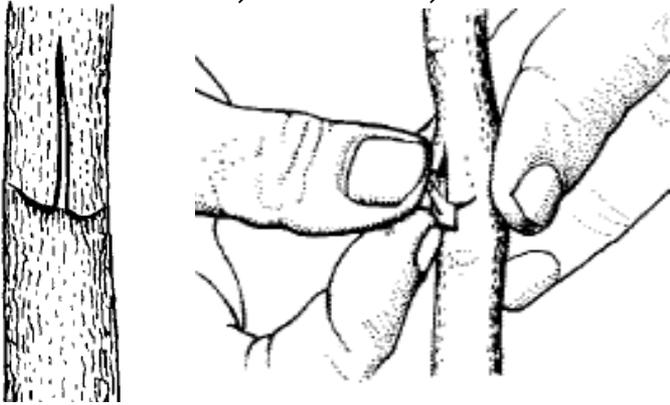
- a) Start about ½" below the bud.
- b) Cut off bud & petiole.
- c) Keep hands off.
- d) Then insert and push down and wrap.



TYPES OF BUDDING

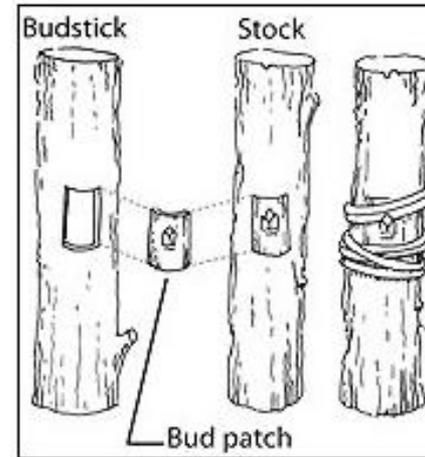
2.- Inverted T Budding.

- a) Use where we have heavy sap flow.
Chestnuts, avocados, citrus.



3.- Patch Budding.

- a) Thick barked trees.



4.- Chip Budding.

- a) When bark is not slipping.
b) Sometimes bud will not grow out because of apical dominance.
• Break off or cut off top.

