

One-step method for grafting medicinal Cannabis

Equipment list:

70 or 80% alcohol, either iso-propyl alcohol or ethanol in a spray bottle.
Clean water in a spray bottle
Clean tissue
Secateurs
Scalpel
Cutting board
Clonex gel in a small container
Grafting clips
Propagation medium in container (eg coco-peat or rockwool trays)
Propagation dome
Temperature and humidity monitor

Method

1. Clean all equipment by spraying with alcohol
2. Soak the propagation medium with water

The Rootstock

3. Cut a ~20cm stem from the top of a mother plant to provide the rootstock (A).
4. Remove all leaves from up the side of the stem with secateurs (B)
5. Excise the leaf bunch at the top with a scalpel and then cut the base of the stem diagonally across a node with a scalpel. The stem piece should be approximately 10cm long (B).
6. Make a 1cm vertical cut down the top of the stem for the scion to connect to (C)
7. Gently scrape the bottom 1cm of the rootstock stem with a scalpel (this will aid root development).



The Scion

8. Cut a ~20cm top of a mother plant to provide the scion (D)
9. Cut all the leaves from the sides of the stem with secateurs, leaving the leaf bunch at the top (E).
10. Trim the leaf bunch to the length of the shortest leaf with secateurs (E & F)
11. Cut the stem to result in a total scion length of 10cm with a scalpel (F)
12. Gently shave two opposite sides of the bottom 1cm section of the scion into a pencil shape with a scalpel (G)



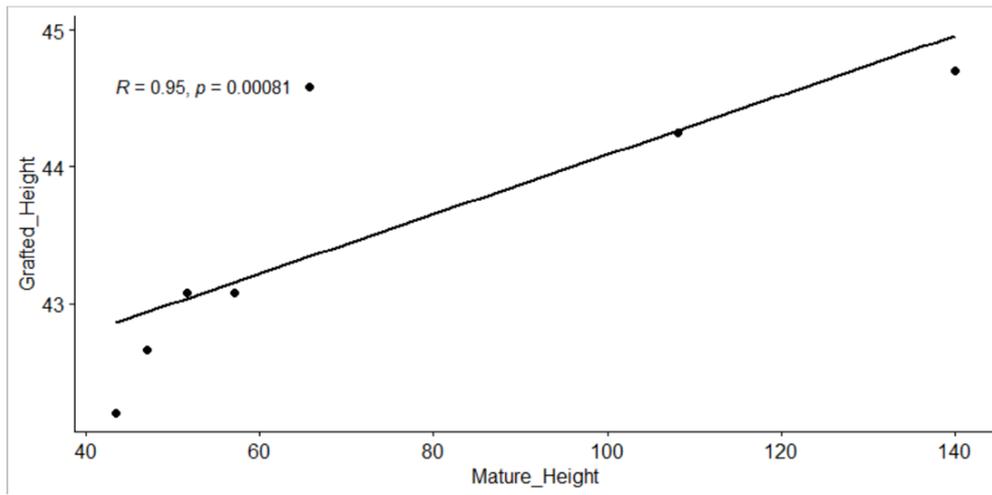
One-step method for grafting medicinal Cannabis continued

Grafting

11. Wipe the union zone of the rootstock and scion with a tissue soaked in alcohol
12. Slide the scion into the cut made in the rootstock stem and secure with a grafting clip (H)
13. Dip the bottom of the rootstock stem into the clonex gel and place it into the propagation medium (eg coco-plug or rockwool).
14. Place the graft inside a propagation dome. If using a tray of propagation plugs, complete the tray as quickly as possible and then place the tray of grafts into the dome (I).
15. Spray some water inside the dome, and place a humidity and temperature sensor inside and close all vents.
16. Keep the clones under a PAR of 100-150 $\mu\text{mol m}^{-2} \text{s}^{-1}$ and temperature of 25 °C. Retain 100% humidity for 7 days and then progressively lower it by opening the vents and then sliding the lid away from the base over the remaining 7 days (see table below for target humidity).
17. The plants will wilt significantly in the 24 hours post grafting. This does not mean they have failed (J).
18. The plants will regain turgor 48-72 hours post grafting (K).



Day	% Humidity
1	100
2	100
3	100
4	100
5	100
6	100
7	100
8	97.5
9	92.5
10	87.5
11	80
12	80
13	80
14	80



Supplementary Figure S1: Spearman's rank correlation between rootstock mature plant height and grafted CBD1 scion height.