Start in Plugs

- Use Coco peat, Peatmoss or other well drained soil types.
- Use a 50 to 84 hole tray. 50 holes when sticking more than 3 weeks before transplanting.
- EC from start 3.5 EC, pH 5.3 to 5.8.
- Fertilizer recipe:

N	Nitrogen	200	ppm	Mn	Manganese	0,6	ppm
Р	Phosphor	60	ppm	В	Boron	0,35	ppm
K	Potassium	210	ppm	Cu	Cupper	0,15	ppm
Ca	Calcium	210	ppm	Zn	Zinc	0,1	ppm
Mg	Magnesium	50	ppm	Cl	Chloride	50	ppm
S	Sulphur	25	ppm	Mo	Molybdenum	0,05	ppm

- Keep wet (moist) Never dry.
- Store cuttings for 4 to 5 days before stick at 16 to 18 degree Celsius. That will give a uniform rooting.
- Cover with acrylic fleece (Agryl) or similar the first 7 days to keep plants moist. Sprinkle the Agryl once or twice a day to keep moist. This is not irrigation.
- Always use fertilizer when irrigating. 3.5 EC
- Right after stick apply a fungus spray, Captan 50W (250 gram / 100 liter) 100 liter / 50 M2
 http://www.phytocaregroup.com/files/insecticidas/Captan50WP.pdf

 Possible fungal diseases:

Fungus and Fungicides								
Fungus	Chemical	Active ingredient	Concentration	Dosage	Comment			
Botrytis/Rhizopus	Switch	375 g/kg cyprodinil 250 g/kg fludioxonil	75 g/100 liter	100 liter/250 m2	Alt. Captan or Rovral or Thiram			
Botrytis/Rhizopus Rovral		750 g/kg iprodion	75 g/100 liter	100 liter/250 m2	Alt. Captan or Switch or Thiram			
Botrytis/Rhizopus Thiram		480 g/l thiram	75 g/100 liter	100 liter/250 m2	Alt. Captan or Switch or Rovral			
Cylindrocarpon Switch		375 g/kg cyprodinil 250 g/kg fludioxonil	1/5 d/100 liter 1100 liter/150 m2 IAIT (Alt. Captan			
Thielaviopsis	Switch	375 g/kg cyprodinil 250 g/kg fludioxonil	75 g/100 liter	100 liter/150 m2	Alt. Captan			
Phytopthera/Pythium	Acrobat	75 g/kg dimethomorph 667 g/kg mancozeb	75 g/100 liter	100 liter/150 m2	Alt. Captan or Amistar			
Phytopthera/Pythium	Amistar	250 g/l azoxystrobin	75 g/100 liter	100 liter/150 m2	Alt. Captan or Acrobat			
General Fungus	Captan	500 g/l captan	250 g/100 liter	100 liter/50 m2	No effekt against Rhizotonia			
Rhizotonia	Rizolex	500 g/l tolclofos-methyl	100 g/100 liter	100 liter/150 m2	No alternative			
Downy Mildew	Denarin/Saprol	190 g/l triforin	100 g/100 liter	100 liter/250 m2	Alt. Candit			
Downy Mildew	Candit	500 g/kg kresoxim-methyl	100 g/100 liter	100 liter/250 m2	Alt. Denarin/Saprol			

Chemical and pest Control

Pest and Chemicals							
Fungus	Chemical Active ingredient		Concentratio Dosage		Comment		
Aphids	Pirimor	500 g/kg pirimicarb	75 g/100 liter	100 liter/200	Combine w/ Decis		
Aphids	Decis	25 g/l deltamethrin	75 g/100 liter	100 liter/200	Combine w/ Pirimor		
Aphids	Teppeki	500 g/kg flonicamid	30 g/100 liter	100 liter/200	Combine w/ Pirimor		
Fungus gnat/Sciara	Nomolt	150 g/l teflubenzuron	75 g/100 liter	100 liter/100	Alt. Steward		
Fungus gnat/Sciara	Steward	300 g/kg indoxacarb	5 g/100 liter	100 liter/200	Alt. Nomolt		
Dupontchelia/Moths	Nomolt	150 g/l teflubenzuron	75 g/100 liter	100 liter/100	Alt. Steward or XenTari		
Dupontchelia/Moths	Steward	300 g/kg indoxacarb	5 g/100 liter	100 liter/200 m2	Alternating w/ XenTari. 1 week between treatments		
Dupontchelia/Moths	XenTari	540 g/l Bacillus thuringiensis, subsp. aizawai, Strain ABTS- 1857	300 g/100 liter	100 liter/100 m2	Alternating w/ Steward. 1 week between treatments		
Thrips	Conserve	120 g/l spinosad	100 g/100 liter	100 liter/200 m2	Alternating treatments with Admiral/Mospilan & Vertimec/Teppeki. 5 days between treatments		
Thrips	Admiral	100 g/l pyriproxyfen	50 g/100 liter	100 liter/200	Combine with Mospilan		
Thrips	Mospilan	200 g/kg acetamiprid	50 g/100 liter	100 liter/200	Combine with Admiral		
Thrips	Vertimec	18 g/l abamectin	100 g/100 liter	100 liter/200	Combine with Teppeki		
Thrips	Teppeki	500 g/kg flonicamid	100 g/100 liter	100 liter/200	Combine with Vertimec		
Broad mites	Vertimec	18 g/l abamectin	100 g/100 liter	100 liter/200 m2	Combine with or Floramite or Apollo. 7 day interval between treatments		
Broad mites	Apollo	480 g/l thiram	40 g/100 liter	100 liter/200	Combine with Vertimec		



- After 21 days, do a soft pinch, only pinch the tip over 3 leaf pairs.
- After 35 days, transplant in trays or direct into soil. In trays can be used Coco peat, peatmoss or other types of well drained growing media.
- Make the soil very wet before or right after transplanting. Make sure that the EC is high (2,5 to 3.0 EC)
- Fertilizer recipe:

N	Nitrogen	200	ppm	Mn	Manganese	0,6	ppm
Р	Phosphor	60	ppm	В	Boron	0,35	ppm
K	Potassium	210	ppm	Cu	Cupper	0,15	ppm
Ca	Calcium	210	ppm	Zn	Zinc	0,1	ppm
Mg	Magnesium	50	ppm	Cl	Chloride	50	ppm
S	Sulphur	25	ppm	Мо	Molybdenum	0,05	ppm

- Right after transplant apply a fungus spray, Captan 50W (250 gram/100 liter)
 100 liter/50 M2.
- Make sure that the soil is moist at all time. Do not let it dry out, especially not the first 3
 weeks after transplanting.
- Keep the EC at 2,5 and if Coco peat or compost is used then go to EC 3,0 in the first 6 weeks after transplanting.
- If EC is to low the plants will turn yellow after 3 to 4 weeks.



Plants to the left, 1 week after transplant, still green.

Plants to the right 5 weeks after transplant, yellow because of to low EC.

- After 56 days there should be two cuttings that can be harvested and still, leave a pair of leafs behind on the MP.
- Below here you can what is right and what is wrong



Correct pinching of the mother plant.

Not correct pinching of the mother plant.

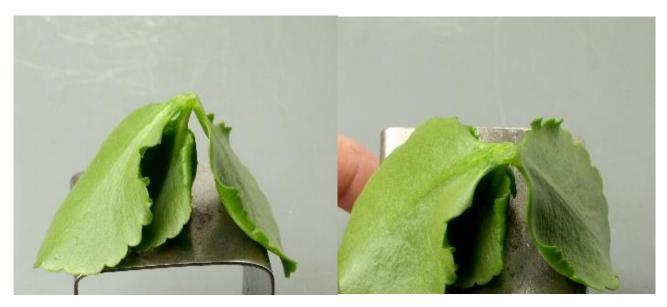


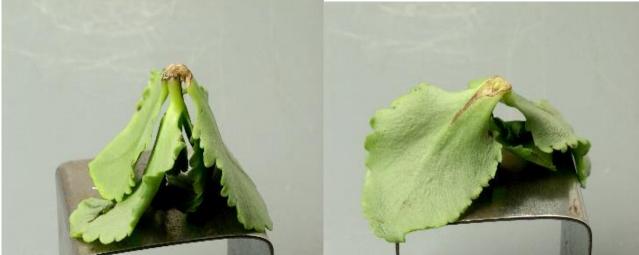
Correct pinching of the cutting



Not correct pinching of the cutting

Impact on the cutting quality, if they are not harvested the correct way.





- Cuttings can be harvest in different sizes but make sure that they are even in the batches.
- Do not make the cuttings to big, it will just use more energy to sustains itself while rooting.



- It is possible to harvest good quality cuttings until the MP is 35 weeks old. After that, the cutting will get harder and will root uneven.
- Make sure that EC are maintained at a level around 2,5 to 3.0 EC in the soil and never let them dry out.
- After 20 weeks, it will be good to drench out the soil with a heavy shower of 150 gram
 Calcium Nitrate / 100 liter to kick-start the plants again (but this is not a necessity, but
 can improve the yield)