



Cloner

Protective stem dip for cuttings prior to planting

Healthy cuttings and seedlings are essential if you eventually want large and flavorsome yields. You need to protect your investment during these early growth stages.

FloraMax Cloner provides reliable treatment for the cut-end of clones (cuttings). Its specialized gel formulation:

- Has an indefinite shelf-life and is resistant to drying-out.
- Provides high resistance to cross contamination from cuttings.
- Available in: 60ml // 250ml

TESTIMONIES

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“The strike rate of our cuttings is so much better with Cloner compared with other gels we have used over the years”

“We now have far less problems with disease... Our growers are now much more confident with doing clones now that we have FloraMax Cloner and the Clone Spray”

“The Cloner is 100% stable in the bottle. Other brands go hard and rank after been used”

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Reproducing your own plants from “cuttings” provides control over the supply and quality of “seedlings”. It also enables you to replicate your favourite ‘strain’.

HOW TO PRODUCE CUTTINGS

- 1. Start with sterile water.** This helps prevent diseases. The water should be around 68 deg F (20 deg C).
- 2. Choose a professional nutrient such as FloraMax Coco A+B.** Add Coco ‘A’ and stir, then Coco ‘B’ and stir.
- 3. Stimulate root production.** Add a root accelerant such as Root-XS to the nutrient solution then stir again. This encourages strong and vigorous roots.
- 4. Check pH to ensure optimal nutrient availability.** Use a calibrated digital pH meter to verify that the nutrient solution’s pH is between 5.5 and 7.0. If the pH is above 7.0, add diluted (not straight out of the bottle!) pH Down, little by little until the pH falls within the correct range.
- 5. Prep pots then moisten.** Line two or three-inch net pots with net pot liners and fill with premium quality, pith-rich coco coir and place in a propagator tray (Fig 5.5). Alternatively use large cell trays, coco propagation blocks or Rockwool cubes. Gently tap the pot or tray a few times to get rid of any large air gaps. Thoroughly moisten (flush) the propagation media with the nutrient solution. Discard any run-off.

TIP: To prevent diseases, ensure all hardware has been thoroughly pre-sterilized with bleach.

- 6. Take small cuttings.** Select a healthy mother plant that is not flowering and has no visible diseases or pest infestations:

- **Step 1. Select “lead” growth tips wherever possible.** Ideal length is 3 – 5 inches with one leaf set (two leaves) at the base that can be removed later on (Fig 5.1). When these lower leaves are removed (in Step 2) this region offers greater rooting potential when placed into ‘soil’.
- **Step 2. Work quickly with a sterile, sharp blade** (razor blades are good but be careful). Remove lower set of leaves flush with stem, but without cutting into it. Then cut through the stem on a 45 degree angle about 1/4 inch (6mm) below this (Fig 5.2). Do not tear or crush the stem.

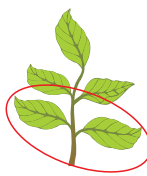


Fig 5.1 Cuttings ideally need “spare” leaves at the base that can be removed later

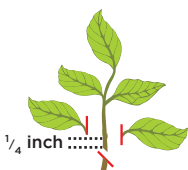


Fig 5.2 Where to cut



Fig 5.3 Insert base of cutting into clone gel



Fig 5.4 Insert base of cutting snugly into medium



Root-XS helps accelerate root growth and minimizes transplant stress

- **Step 3. Insert 1 inch of base of cutting (Fig 5.3) into FloraMax Cloner** (or equivalent). Finally, insert stem about one inch deep into a ‘pre-made’ hole (slightly undersized) in the centre of the pot or block (Fig 5.4). It should fit snugly. Be careful not to bruise or damage the stem. **NOTE:** Steps 1 to 3 should be done quickly to minimize stresses on the cutting such as dehydration and air ingress.

- 7. Seal in moisture.** Place propagator lid on tray and generally close any vents (Fig 5.5). Relative humidity should be maintained about 90% (open vents slightly if required). To combat any persistent wilting, spray 2-3 times per day with water or FloraMax Clone Spray. Avoid pools of liquid at the bottom of the propagator – propagation media should never be allowed to sit in water.

- 8. Place under low intensity fluorescent light.** Use 6500K lamps and leave on for 24 hours a day. Monitor temperature inside the propagator using a thermometer with a remote probe. Aim for 75-80 deg F (24-27 deg C). Use a thermostatically controlled heat mat if temperatures are too cold—unlikely. Raise lights if too hot—more likely.

- 9. Check cuttings regularly.** Once roots form (typically after 5 – 10 days) the propagation media can become dry very quickly, often catching growers out. Remoisten using the same solution. In some cases, top-watering fails to water the entire propagation block. Full immersion of the block itself may be required.

- 10. Be patient and clean.** Wait until roots have fully explored the propagation media before transplanting—keeping the cuttings moist (but not drenched) with regular top-ups of mild nutrient solution. Vents can be gradually opened once roots have formed. This will help prevent diseases. Also,

maintain hygiene by keeping hard surfaces wiped clean, and remove any dead plant matter as this is an ideal host for fungi.

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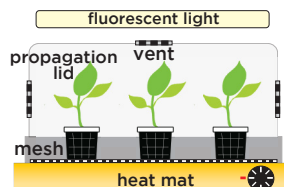


Fig 5.5 A propagation lid, fluoro light and heat mat helps improve the speed of cuttings.



Clone Spray assists root and foliage growth and helps prevent wilting