LETTER FROM THE CREATOR

My name is Billy Blackburn. I am the creator/inventor of The EZ-CLONE® cloning system and an owner of EZ-CLONE® Enterprises, Inc. First of all, I would like to say congratulations on the purchase of your new EZ-CLONE® and thank you very much for your business and choosing us to fulfill your plant cloning needs.

The EZ-CLONE® was specifically designed to simplify the plant cloning process and eliminate the need for daily maintenance. That being said, there are still a few technical advice questions that I regularly receive, so I am going to share with you exactly what I do to get the best possible results from start to finish. Please understand that this is specifically MY opinion. My formula for success is based on personal experience using the system that I designed, the gathering of information from others who have purchased and use our product, and feedback from other hydroponic industry experts. Please be aware that I understand there are numerous products on the market that may be used in conjunction with the EZ-CLONE® cloning system to get good results. The products that I choose to use are simply my personal preference.

SECTIONS COVERED

ASSEMBLY, CLEANING & SYSTEM PREPARATION

After removing the system from the packaging material and before starting assembly, I always do a quick rinse down of the lid and reservoir to remove any unwanted dust or debris that may have been caused by shipping. Next, assembly of the system is very basic and takes just a few minutes. Follow the assembly instructions supplied in the system. If for any reason the instructions were lost or missing from the package, please go to www.ezclone.com and click on assembly instructions.

SYSTEM PLACEMENT

The system can be placed on either the floor or up off the ground on any structure stable enough to hold it when filled with water. I prefer to set it on a sturdy table or stand.

LIGHTING

The preferred lighting to use is a 2 or 4 foot dual T12 fluorescent fixture. The 40 watt bulbs work best and this is a sufficient amount of light for the delicate cuttings. A 2 foot fixture works well over our 16 cutting system and a 4 foot fixture supplies adequate coverage over our 32, 64, and 128 cutting systems. The light should be securely suspended over the system and should be placed about 12-18 inches above the top of the cuttings and put on a 18-24 hour time cycle.

FILLING RESERVOIR, ADDITIVES & PH

Next, with the manifold properly attached to the water pump and placed in the center of the reservoir, fill the reservoir with tap water or another source of quality water. Fill the system until the water is just touching the very bottom of the misters, making sure not to cover them. This will ensure that there is the largest volume of water in the reservoir possible without hindering the operation of the manifold. Remember, the more water that's in the system, the cooler the water will remain and the more stable the ph level will be.

Note: Avoid using (distilled) water! It causes lack of progress and could prevent roots from forming at all. However, Reverse Osmosis water is usually fine. If you feel that the tap water in your area is too high in certain mineral content or has excessive chlorine, it's ok to use an RO system, but tap water in most areas is usually sufficient.

Next, I add my solution. I add EZ-CLONE® **Clear Rez**™ at a dilution rate of 1oz per 5 gallons per week. In a large 128-cutting system, this equates to be approximately 4oz per week. In a 64-cutting system, 2oz per week, in a 32-cutting system it equates to be about 1oz per week and the 16-cutting system needs about 3/4oz per week.

After my solutions are added, I'll adjust the pH. Tap water is usually pH adjusted somewhere close to neutral or just above 7.0. I've also noticed that even without additives of any kind, the pH of tap water will have a tendency to rise over the course of 24-48 hours. To compensate for this, I adjust my initial pH down to approximately 5.2 because I know the pH will slowly rise somewhere close to between 5.8 and 6.3. This is an acceptable range for getting quality results. I keep the closest eye on my pH during this time period of 24-48 hrs. If the pH needs to be adjusted again later on, do so, but it usually stables out after the first couple adjustments. If you are not sure if you've got an accurate pH reading, I highly recommend getting a quality digital pH meter. You should be using one of these for your feeding solutions in all stages of growth anyway.

TAKING CUTTINGS & INSERTING INTO LID

Next, I start taking cuttings from my donor plant. I prefer to take them directly from the donor right before I'm ready to insert them into the lid. On the average, I take a 3 to 5 inch cutting and leave 2 to 4 leaves on the top. If the leaves are small, I don't trim them. If they are medium to large, I will trim half of each leaf off. The reason for this is because the cutting only requires a small leaf area to absorb a sufficient amount of light to keep it alive. Also, because the cutting does not have a root structure yet, the leaves are sustained by the amount of moisture that is held in the stem. If the leaves are smaller, the cutting does not have to work as hard to supply moisture to the leaves, which allows the cutting to focus its energy on "producing roots". It also has the added benefit of reducing the overall amount of leaf area on the top of the EZ-CLONE®. This prevents some leaves from getting covered by others and makes for an overall friendlier environment, which is less likely to promote fungal growth like Powdery Mildew.

(Taking Cuttings & Inserting into Lid continued...)

As I take each cutting, I will cut it from the donor plant with either a sharp razor blade or a quality pair of trimming shears. Make sure the cutting utensil is clean. It can be sterilized with isopropyl alcohol, a lighter, or both. I prefer both. I have heard multiple times that it's necessary for the cutting to be taken at a 45 degree angle. This is completely false. It does not matter. Just make sure the cut is clean and the bottom of the cutting is not mangled. Roots will form along the wall of the stem.

Also, I use EZ-CLONE® **Rooting Compound**™. After taking each cutting, I place the cutting inside a separate shot glass of gel and let it sit there until I have taken approximately 8 cuttings. Avoid dipping cuttings into the original container of gel to help prevent contamination. This means I have 8 cuttings soaking up the gel. I pull them out one at a time, insert each cutting into a new cloning collar and place the collar into the system. In a 120 system, there are 15 rows of 8. This is why I take 8 cuttings at a time. I prefer to fill up a row, take 8 more cuttings, fill up another row, and continue that pattern until the lid is full.

Although the cloning collars can be reused, I highly recommend using new collars every time you clone instead of trying to clean the previously used ones. When the collars are used, they can get slime in the pores, cracks, and creases from various types of additives and I think it's a bit difficult to guarantee they get totally clean. I would rather spend the few bucks for new collars and not have to worry about potentially getting any bad bacteria due the old collars not being cleaned properly. View it as a 50-cent insurance policy per cutting.

It is also important to let you know that I do not turn the water pump on until I have the entire system full of cuttings and have pH balanced the water. It usually takes about an hour to take 128 cuttings and insert them into the lid. During this time, the cuttings are still absorbing the gel and an hour is not too long to wait before turning on the water pump. The cuttings usually will not wilt within this hour time period, but if you do get some minor wilting, after you plug the pump in, the cuttings will perk right back up.

WATER TEMPERATURE

With the development of EZ-CLONE® **Clear Rez**™, water temperatures are no longer as big of a concern. Bacterial growth is aided by warmer temperature. This is why we used to recommended lower reservoir temperatures for successful cloning. We have experienced successful cloning with temperatures as high as 85 degrees with the use of **Clear Rez**™.

DAILY MAINTENANCE

One of the most valuable benefits of using the EZ-CLONE® is that it is designed to plug in and produce roots. My time is very valuable and I wanted something to work "for me" not the other way around. My experience with conventional methods of cloning (putting the cuttings into various mediums and under humidity domes) was less than successful. Results were sporadic and I never liked the fact that the cuttings had to be babysat and sprayed with water regularly to keep them from drying out. I'm always proud when people tell me that they filled up their EZ-CLONE®, went on vacation, and when they came back, had beautiful healthy roots. THAT is what the product is designed to do!

TRANSPLANTING

Another major benefit to the EZ-CLONE® is that your cuttings are developing roots aeroponically and are not surrounded by any particular growing medium before they're ready to transplant. This allows you to remove the cuttings from the system and the freedom to place them into soil, soilless mixes, rockwool, hydroton (clay rocks), coco fiber, pure organic mixes, or to go straight into larger aeroponic or hydroponic systems. It's very versatile.

HUMIDITY DOMES???

The EZ-CLONE® was originally created without a humidity dome specifically because it is **NOT** necessary. Conventional methods of propagation require domes to keep the medium and cuttings from drying out too quickly. They also require the grower to keep a constant eye on the cuttings to make sure they don't wilt and die. The inner workings of an EZ-CLONE® provide the perfect environment for rapid root growth. Because the EZ-CLONE® gives the cuttings a constant aeroponic mist of solution from inside the system, being concerned with the cuttings drying out is never an issue. Also, when cuttings are rooted under domes and the domes are removed for transplanting, the cuttings go through a period of shock and can often die. Another benefit to propagating without a humidity dome is that it allows the cuttings to transpire and breathe naturally and much more efficiently. This drastically reduces the chance of creating "too much" humidity and attracting harmful airborne fungi such as powdery mildew. The companies out there who have attempted to copy our design and include a humidity dome are simply trying to fool the end consumer into believing that the dome is necessary and charging you for it! Leave the domes off! It's better for the plants.

CLEANING BETWEEN USES

To keep your EZ-CLONE® and all your hydroponic equipment functioning at its peak performance requires proper cleaning techniques in between uses. The EZ-CLONE® Classic is very simple to clean and can be done very quickly. After a successful cloning cycle, empty the water from the reservoir.
It is vital that the system is cleaned regularly after each cloning cycle. We recommend running one to four cups of bleach water through the entire system to sterilize.

16 system - 3/4 cup of bleach
32 system - 2 cups of bleach
64 system - 4 cups of bleach
128 system - 4 cups of bleach

Once your cycle is complete, remove all cuttings, pump/manifold assembly and cloning collars. Empty reservoir. Fill reservoir to the top with fresh water. Add bleach to the specified ratio. Remove red misters from manifold. Individually inspect the red misters and remove any debris that may be clogging them. Compressed air or a paper clip work well for this. Add misters to a cup of bleach water solution taken from your reservoir and allow to soak for 20 minutes.

Place cloning collars in a five gallon bucket filled with fresh water and add one cup of bleach. Use another five gallon bucket with holes drilled in the bottom to help submerge the cloning collars by placing it inside the

(Cleaning Between Uses continued...)

filled bucket.
Place pump/manifold assembly without misters back into the center of the reservoir. Cycle pump and manifold completely submerged in bleach water solution for at least 20 minutes. While system is cycling the bleach water solution, flip the lid upside down and place in the reservoir so that it can soak in the bleach water solution. After cycling the bleach water solution for at least 20 minutes, empty the reservoir and do a quick wipe down with a scotch pad to ensure no build up is left. Remove drain plug assembly and wipe down with scotch pad too. Re-install drain plug assembly and refill system with fresh water and cycle for 20 minutes to ensure no bleach is remaining in the system. Empty reservoir and hand rinse the system. Rinse red misters thoroughly with fresh water and re-install into manifold. Rinse and inspect each cloning collar thoroughly to ensure no bleach or plant matter remains. Once everything is clean and sterilized, re-assemble the system and begin your next cycle.

Also be careful not to wear any nice clothes as the bleach water may stain them.

I hope this helps everyone who owns an EZ-CLONE® and THANK YOU again for your business and support.

GET ROOTED. GET GROWING