The Grean Bicycles Two-Step Grow Guide.

The Grean Bicycles simple Two-Step system is based on natural inputs that maximizes growth and minimizes problems.

Step 1: Build a healthy biologically activated soil.

Step 2: Brew Actively Aerated Compost Tea (AACT)

The goal is to avoid problems. Starting with a clean environment and healthy genetics will improve your chances for success. Keep it simple. Less is more.

Materials typically required for the Grean Bicycles Two-Step Six Plant Grow Kit:

Step 1: Mixing the Ocean Bounty:
Garden Rake, 8 ft x 10 ft tarp, approximately 10 cu ft of soil, 12 lbs Ocean Bounty Mix, (6) Dixie cups w/drainage holes, (6) 1 gallon plant containers, (6) 7 gallon plant containers, and large plastic bags or clean garbage cans.

Step 2: Brewing Happy Endings Tea mix:
A 5-gallon bucket, air pump, air stones, 6 lbs of Happy Endings, and clean water.

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Some Plant Basics

The plant of interest can be male, female, or both. Of most interest is the female's flower. Males and hermaphrodites are mostly used for breeding. Two stages of plant growth occur, the nonflowering vegetative stage and the flowering stage. Plants grown from seeds are not sexually mature for six to eight weeks after germination.

In a sexually mature plant, the length of day determines stage of growth. Generally speaking, the flowering stage is started as diminishing daylight approaches 12 hours of darkness. Once the flowering stage begins, it takes from 7 to 15 weeks for the flowers to ripen. Plant genetics determine flowering period and potency, this should be taken into consideration in your plan.

Knowing your goals will streamline your plan. Do you want to grow Sativa, Indica, or the common hybrid strains? High THC? High CBD? Strong aroma? Ten-foot plants or 2-foot plants? Ask and answer these questions, do some research. Plenty of knowledge can be easily accessed to get started down the right path. Keep in mind there will be many valid and rewarding paths to your goal.

Location

Indoor location:
Adequate electrical wiring? Ventilation, mold potential in a humid room? Temperature control? Code violations? Noise and/or odor issues? Limited and secure areas? Power bills? Artificial light options? Bad neighbors? Equipment costs?

Outdoor location:
Sun exposure? In public view? Limited and secure access? Odor nuisance? Local ordinance for setbacks and other restrictions? Water source? Greenhouse? Bad Neighbors?

Asking and answering these questions helps to avoid some future pitfalls. Finding an appropriate location may well be the biggest hurdle. Without an appropriate location, your plan is insecure. Once your location is chosen, organize the working area to be clean and efficient. Accessible and safe storage areas are helpful. A well-thought work place can save time and energy.

Getting Ready

Size of the plants:
Genetics and container are big factors. The bigger the container, the bigger the plant. Single containers of plants in beds? Grow directly into the soil? Small to medium sized plants (2 ft to 6 ft) are typically grown in 5, 7, and 10-gallon containers. In-ground plants or large containers can yield plants above 10 feet high. For practical and mobile plants it is suggested to use 7 to 10-gallon containers.

Obtain enough soil required to fill your containers. If you are fortunate and have access to healthy living soil, you are already ahead. If starting fresh, it is suggested to use a reputable soil manufacturer and begin with new soil. Grean Bicycles' two-step system has worked well with a wide array of commercial soils. A thoroughly mixed and fully composted soil blend is desirable.

Line up your genetics. Clones have the advantage of predictability but are a risky source of pests and disease. Seeds are less predictable and take longer than clones, but they are a safer bet. If starting out, it is suggested to find a good seed company and take the full journey with your plants.

Grean Bicycle's Two-Step Process

Step 1: Amending the soil with Ocean Bounty.

There are three common methods using Ocean Bounty for plant nourishment. Fully amended soil, top dressing, and aerating the mix in water to produce an active liquid nutrient.

Fully amending your new soil can be labor intensive, but the upfront work pays dividends in the long run. A clean 8 x 10 tarp and a rake are tools to make quick work of amending soil for six plants. Two bags of soil (3-4 cu ft or approximately 20 gal) are spread out on the tarp. Four pounds of Ocean Bounty is evenly spread across the soil. Use a combination of raking the mixture and use the tarp to roll the mixture. After five to six cycles the streaks of Ocean Bounty disappear into the mix. The soil is now fully amended and ready to use for all stages of growth.

The amended soil can be stored in a container such as a trash can or large plastic bags. It is typical to grow your plants in successive larger containers, so the soil will not be used all at once. Compost tea can be added at this point to help break down the soil mixture into available nutrients.

Top dress the plants with a thin layer of Ocean Bounty and scratch into soil.
Brew Ocean Bounty as a tea to make a liquid nutrient.

Step 2: Brewing up Happy Endings Tea Mix.

Equipment: Brewing Vessels, aeration system, clean water.

Brewing Vessel:
The brewing vessel can be as simple as a 5 gallon bucket for small batches or a 30 gallon trash can for typical batches. The vessel should be clean and sanitary. Commercial tea brewers are also available. Three to 10-gallon batches are common for six plants. Keep in mind the vessel should be at least one-third larger than the batch size. A 3-gallon batch brewed in a 5-gallon bucket can be diluted to six gallons to water six plants.

Aeration System:
The purpose is to dissolve oxygen into the tea mixture. There are different methods to aerate the vessel. An air pump and clean air stones are recommended as a starting method.

Air pump:
The more air through the tea mixture allows a faster and healthier tea batch. The air pump should be as big as possible. A large aquarium pump might suffice for a 3-gallon batch. Batches larger than 3-gallons works best with a larger specialty pump, (shown below).

Air stones:
Use clean air stones, the larger the better. The air stones attract biomass during the brewing cycle and begin to clog. Consider the air stones consumable and replace after two or three cycles for best results.

Clean Water:
Although chlorinated tap water can be used, dechlorinated or well water will get better results. The chloramine in tap water is to prevent biological activity. Some effective methods to remove the chloramine include cartridge filtering systems and a fish tank product called De-chlor. Bubbling the water overnight is not effective in removing chloramine from municipal water supplies.

The pH of the tea mix should be in the area of 6.5 to 7.5. Measure both the clean starting water and final tea mixture if you have problems. For simplicity, it is recommended to try using water straight from the tap for the first batches, adjust and experiment if necessary.

The Brewing Process

Application Rates:
1 cup Happy Endings Tea Mix per 10 gallons water

Directions:
Add 1 cup Happy Endings per 10 gallons of clean, chlorine free, well aerated water.
Start with a clean brewing vessel and aeration equipment for best results. Once tea powder is added, continue to vigorously aerate the mixture from 2 hours up to 1 week.

The tea mixture can be used full strength or diluted with 1 to 4 parts water.
The tea mixture can used for foliar feeding during vegetation stages, helping to inoculate the plant from pests and diseases.

The oxygen in the water will activate the tea mix. Countless biological and chemical reactions begin to break down the carbon based inputs, this is nature's way of making nutrients available. The aerated mixture will begin a life cycle. If conditions permit, the biological activity will rapidly multiply until the space becomes toxic and food become scarce, then a die off. This life cycle typically lasts about 3 to 5 days.

Happy Endings Tea Mix utilizes humic acid, silica, bacteria, fungus, and bio-molecules to foster healthy, clean, and strong root systems. A complete supply of micro and macro nutrients are provided by the wide variety of carbon based inputs. It is simple to use and will benefit all stages of plant growth. Data indicate the available phosphorous is slow to release into the tea mixture. In general, short brew times are used when vegetating and longer brews for flowering. Some of the variables affecting brew times are water quality, temperature, and aeration.

A layer of foam can be an indicator of biological activity. The thickness of the foam layer seems to follow the biological activity, foam layer thickens with increased activity. Smell can also indicate the health of the tea mixture. Happy Endings has a sweet, earthy, and a bit of the ocean smell when it's fresh and activated.

Experiment with tea brewing in your local environment with local resources. Throw some local root masses and soil into the mix. Worm castings, compost, and bokashi can add value. There are many methods and recipes that produce positive results. Actively Aerated Compost Teas (AACT) are one of the best tools in the gardener's shed.

Note of Caution- fresh manure (guano) may contain unwanted pathogens that could also multiply in the brewer. Use well composted poop or add at the end of brew cycle.

The Growing Process

Starting with Seeds:
Now days there are almost endless choices for genetics. Standard seeds can be either male or female. Also "feminized seeds" are available which produce female plants only. Keep in mind, standard seeds are roughly 50% male and 50% female. If your goal is six female plants, start with at least 12 standard seeds.

A plant started from seed will take between 5 and 8 weeks to become sexually mature and display male or female traits. The signs may be subtle so do research or get knowledgeable advice to help determine the sex of your plant. Genetic tests are now available for early sexing of the plants, (see Phylos Bioscience). Unless you are planning breeding projects, only females will be kept to prevent undesirable seeded flowers.

It is important to note that plants cannot begin a flowering cycle until it is sexually mature. Keep this in mind when planning the calendar for the growing cycle. Two characteristics of plants grown from seed are a tap-root for a potentially larger plant and symmetrical branches 180 degrees apart.

Starting the seeds:
Soak the seeds in water for about 12-24 hours or until they sink to the bottom when pushed. Fill a small container, about a cup in size, with fresh fertilized soil. Make sure the container has holes for drainage. Wet the soil with water then push a small hole about 1/2 inch deep into the soil surface. Drop a seed into the hole and cover with soil. Place the container outside in a sheltered area or under a fluorescent light. Reputable sourced seeds should germinate within one week and close to 100% should sprout.

When germinating under fluorescent light, keep the light distance close to the plant to minimize plant stretch. Usually an inch between top of plant and light source will be in the ballpark. Keep in mind the plants will be growing and lights should be adjusted accordingly.

Starting with clones:
Clones are rooted branches from a known mother plant. The sex and characteristics will match the mother plant. The baby plants are already sexually mature and can begin a flowering cycle. Make sure to expose these plants to at least 18 hours of light to prevent premature flowering.

Clones have a head start over plants started from seeds. The sex and qualities are predetermined. The downside is that they may bring pests and disease into your growing environment. It is best to get the clones from a known reputable source. Look for healthy and strong babies. The best results happen when starting healthy without having to fix problems.

Transfer the clone babies into smaller sized containers filled (Dixie cup) with lightly amended soil. Water with clean water or diluted tea. Place the plants into an area with at least 18 hours of light exposure to maintain the vegetation stage of growth.

Growing the Plants

Two main factors concerning plant size are the length of the vegetation stage and container size. A prudent growing plan will include these considerations.

Vegetative stage:
The plant gains size. As long as the plant is exposed to at least 18 hours of light, it will stay in the vegetative state and continue to grow, limited by container size. Once root bound in the container the plant does not get much larger.

A proven strategy is to transfer your plants two or three times into larger containers during the vegetation stage. Allow the plant a couple of weeks to develop a root ball in their container before transplanting. It is best to have the plant in the first container before the flowering cycle begins. Water with tea at every transplant for best results.

An example plan could be starting the plants in Dixie cups. Move the plants to a 1-gallon container after three to four weeks, or when root bound. Transplant into the final 5-7 gallon containers once the plants are root bound in the 1-gallon pots.

Indoor growing has easy control over length of day by using timers on the lights. If flowering the plants indoors, the room should be without light exposure during the dark stage. Light leaks can cause female plants to produce male pollen and therefore produce seeds.

Outdoor growing is controlled by nature’s light cycle. The time of the year for vegetation begins about May. Planting a sexually mature plant outdoors before this date may induce a premature flowering stage. It is common to start plants indoors in a controlled environment before moving outside.

If the plant begins the flowering stage and is then exposed to a longer day it can go into a dormant stage. Stunted plants with single finger leaves are indications of a dormant stage. Once exposed to long days, the plant will eventually begin the vegetation stage again and show normal growth. Try avoiding this situation as the final product will have lower yield and quality.

Throughout the vegetation stage the plants should look a healthy, green, and have rapid continuous growth. Normally only a few fan leaves towards the bottom may turn yellow and die. A common error is to over water the plants. The container should be as dried out as possible before watering. Depending on growth stage, container size, and surrounding environment, it can be one to five days between watering.

Using the Grean Bicycles' Two-Step Method ensures the plant nutrition is well provided. If problems do occur, you can be sure it is not a nutrient issue and focus on the likely environmental problem. Pests and disease are common enemies to a healthy plant. Quite often the enemies are brought in from clones or house plants.

Educate yourself about identifying signs of mites, fungus gnats, powdery mildew, and mold which are some of the typical enemies. Atmospheric conditions such as temperature and humidity also have great influence on plant health. With careful planning and genetic selection, most pitfalls can be avoided.

Flowering stage:
Outdoors, when the days become short enough, the plants will begin the flowering cycle. Indoors, the flowering cycle is triggered by days of 12 hours of darkness. The plant stops getting bigger and becomes bushier. Flower bud growth starts at the base of the limbs and white hairs appear. NOTE: If banana-shaped pods appear, the plant is male. To avoid seed production, the male plant(s) are removed.

Once the flower stage has begun, it is about a 7-12 weeks period before harvest. Flower buds with fresh white hairs and resin glands will thicken along the branches. Towards the end of this period the buds will stop growing and the white hairs in the flowers will begin to change color.

Harvest Time:
Conventional wisdom suggests to harvest when about one-half of the white hairs turn amber. The harvest window is from when the buds stop growing until the leaves turn brown. Typically, this is harvested two to three weeks into the window. Satisfactory results can occur with harvesting anytime within the window.

Drying and Trimming:
Cut down the plant to begin the drying process. An optimal drying space should be warm, dark, and dry with constant air circulation. Common practice is to hang branches on "clothes lines" keeping branches separated. Continue the drying process until the branches snap when they are bent. If the plant is not properly dried, there is a greater chance for mold growing on final product.

Trimming can be done to the fresh cut or dried out plant. Start with removing the large fan leaves. Low THC content in fan leaves can used for juicing, edibles, salves, and compost. Once the leaves without resin glands are removed, typically two more stages of trimming occur, leaving manicured flowers and “sugar” trim for making concentrates.

Curing:
The curing process is vital to maximize the quality of the flowers and often overlooked. In theory this process helps break down the chlorophyll to mitigate its taste and smell. Properly cured flowers will taste and smell better. Store the properly dried flowers into clean mason jars with lids. Place the jars in a dark area for a least a couple of weeks before opening. The flower’s odor and flavor will become stronger over time. Flowers can be stored for a year or longer. This easy process will significantly improve the quality of your harvest.

The Experience

Enjoy the process of growing this magical plant. Remember the plant wants to grow. Let nature take its course. A learning experienced can always be had. Experiment with local ingredients, minimize movement. Do research. Take notes. The reward is great.

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