

This is a fictional how-to cannabis growing guide
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Mister ReSeeds is not intended to
resemble the living or dead.
He lives in nobody's head.

To Know Is To Grow... Cannabis! version 1.05

In the beginning... there was a handful of freshly-harvested seeds from a friend.

Mister ReSeeds wanted to plant some of these cannabis seeds immediately, so he chose the green and undersized seeds. Not many will sprout, but those that do will do it quickly. The better seeds might take a month to sprout when freshly harvested since they are 'expecting' wintertime. They'll sprout much faster after a few months in storage, even if kept at room temperature.

Mr. ReSeeds planted in a mix of cheap potting soil mixed with enough perlite so it will drain quickly. He purchased the perlite in a four-cubic foot bag because it was much cheaper that way. Most of Mr. ReSeeds soil came from his friend, who had lots of pots of used soil because he bought new soil frequently. Mr. ReSeeds cleaned most of the roots and stems out of the used potting soil and mixed in a little perlite (pre-moistened to keep the dust down). Mr. ReSeeds put a leaky bucket under a tree he liked, filled it nearly full of the used but cleaned soil and perlite, then added water into the bucket of soil. He added more water every few hours until that which leaked out of the bucket was nearly clear. After he let it drain and dry a little, he decided to 'solarize' his potting soil because his friend reported spider mites in the last crop. He put the slightly damp used potting soil in black plastic bags which he left sealed in the sun for two days, afterwards the

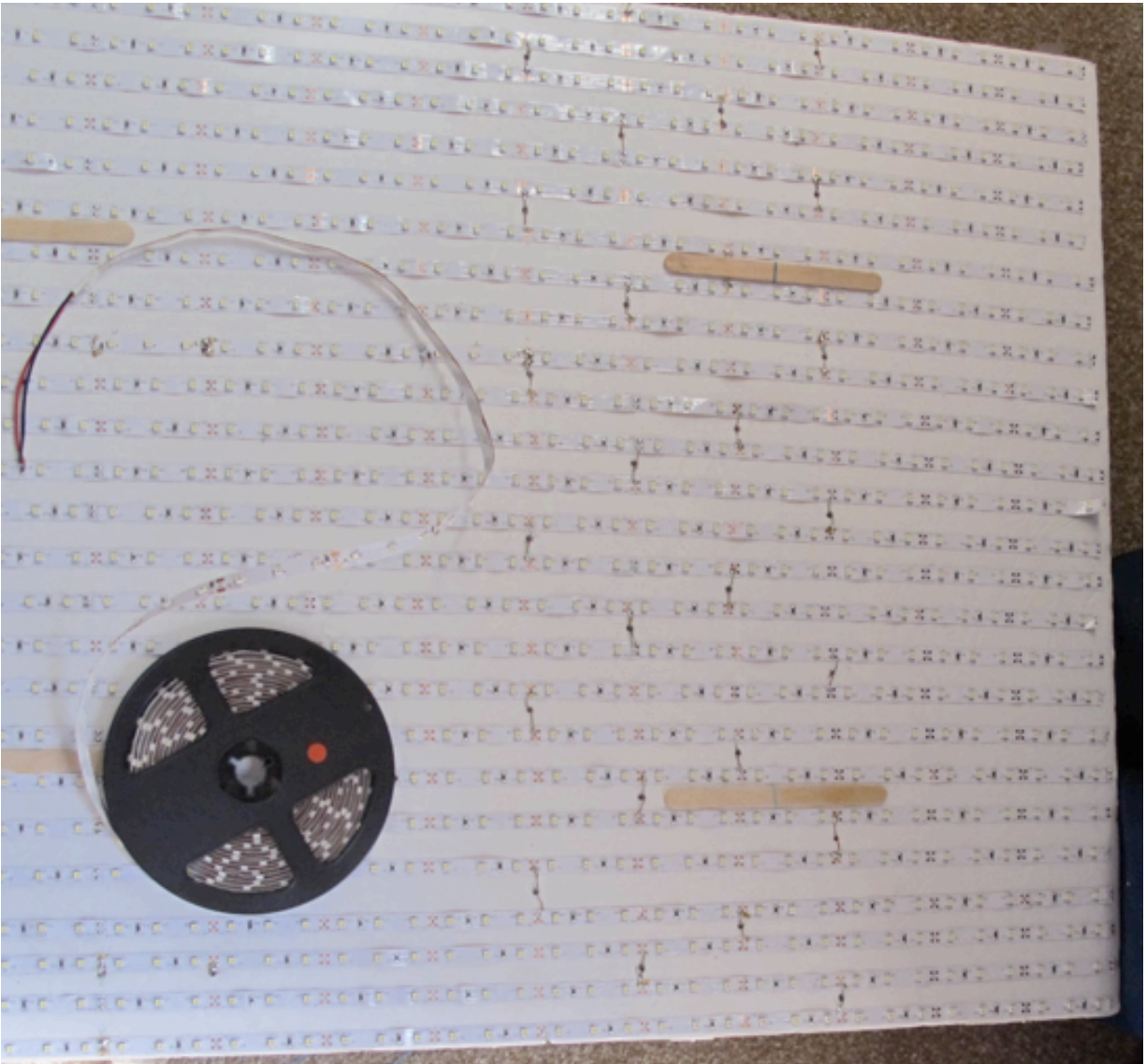
bags were stored in the shade. When he needed more potting soil, Mr. ReSeeds would open the 'solarized' bags of soil a few hours before he would work with the dirt, and he'd always mix this soil with soil from around healthy weed plants, hoping the soil bacterias transmitted would be good for other weed plants as well.

Mr. ReSeeds' put his sprouting seeds on a sunny windowsill. Since Mr. ReSeeds thinks plants adapt easily to a steady concentration of nutrients, he fertilized weakly but frequently, using water-soluble fertilizer at one eighth the manufacturer-recommended strength for weekly waterings. He added even less fertilizer on hot days when the plants are thirstiest. His seedlings grew rapidly, filling the windowsill.

Since there was too much darkness (metaphorically and/or literally) and/or the local climate was too harsh to grow seedlings outdoors, Mr. ReSeeds made a cheap LED light fixture. He took a couple pictures of it, added text, and sent it to his friend, even though his friend could afford much better LEDs.

Mr. ReSeeds wrote:

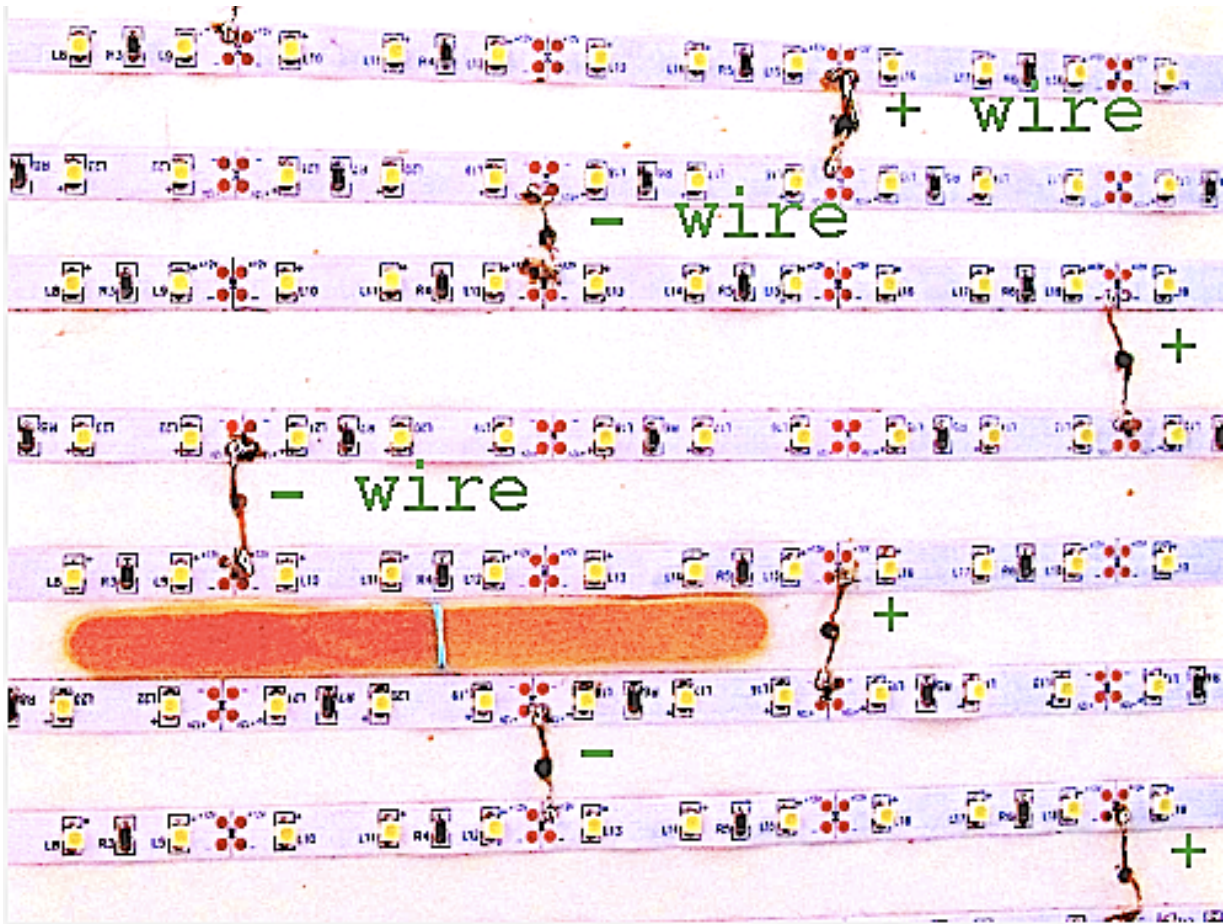
This is a used home-made LED light panel (20 by 30 inches).



This panel is constructed on foam board, but anything non-conductive would do. This panel is lightweight and easy to raise/lower, and uses 1500 cool-white LEDs named '3528.' When these are run at 12 V with moderate ventilation, the LEDs will not burn the plants unless they touch. There are better LED strips available--seek those called 'bright white' or 'cool white' or with color temps higher than 3000K. [Cool white worked the best for Mr. ReSeeds--better than warm white, better than red and blue LEDs on the same panel, and better than adding red or blue lights to cool-white LED

panels.]

The LEDs come in 5 meter rolls that have 300 LEDs per roll. (search terms: flexible LED strip 12V). The LEDs are on a reasonably good tape that can be stuck anywhere dry and clean. I slightly prefer to use twice as many of these rather than use the 'double density' strips (which have 600 LEDs per 5 meter roll) since both heat and light are more evenly distributed. These LEDs require a 12 volt power supply, and this panel with 1500 LEDs draws about 165 watts (including the power supply) at twelve volts. However, if run above 12 V, the panel use more electricity and run hotter (shortening the usable 'lifetime' of the LEDs), but it will be considerably brighter. At room temp, this foam board panel slowly warped when running at 13 volts. If the LED tape becomes warm enough, parts of it will unstick (as in pic), probably due to the tape's adhesive becoming warm combined with thermal expansion. This doesn't usually interfere with using the LED panel unless it breaks a solder joint, so a little glue at solder joints and at the ends is recommended. Rapidly-growing plants require raising the panel at least daily.



A detail of LED wiring--every other LED strip is upside-down so one wire can be split and contact two strips at once. The wire was scrounged from an outdoor light set (which 'capitalism' ensures will be cheaper than buying rolls of wire from a retail store). Do not line up all the holes in the foam board, as that would make a weak place. It is possible to do all the soldering at the ends of the strips, especially if your soldering pencil has a small tip. To reduce heat buildup, add two fans to a panel like this one (40 or 60 mM 12-volt fans usually used to cool computers are excellent). The fan(s) should blow air between the tops of the plants and the LEDs.

The popsicle stick is one of four that provide a secure anchoring place for one end of a light-blue string. The wires in the back are covered by additional foam board.

His friend liked the panel very much, and made a panel with both warm-white and cool-white LEDs that he stuck on the bottom of a cabinet. The mix of LEDs made the light a good color for household use.

When Mr. ReSeeds seedlings had a couple sets of real leaves, he set the timer for twelve hours with lights on followed by twelve hours of **uninterrupted** darkness. This regime should make seedlings flower, and making a seedling flower might take three weeks of twelve hours of uninterrupted darkness every night. Since even baby plants can grow like a weed during that time, Mr. ReSeeds makes his plants flower early so they won't get too tall for his closet and/or attic.

When his seedlings showed some flowers, Mr. ReSeeds removed the males. The female plants he liked best were put under a grow-light panel for at least 18 hours of light per day (more is better) plus a small amount of high-nitrogen fertilizer. These plants hadn't been flowering long, so lazy Mr. ReSeeds did not chop off the tiny, cute bud on each of his female seedlings (he could have used his fingernails). If he had done this, the side shoots would have grown quickly and have sprouted normal leaves instead of flowers. As it is, the main shoot that Mr. ReSeeds left to grow will make flowers and single-bladed leaves for weeks before making new, full-sized, multi-bladed leaves. It is also likely that the new vegetative growth from the main shoot will have too many branches, making his plants look like a living green mop. Mr. ReSeeds forgot to chop the top to stop the mop.

One plant had been flowering for a month before Mr. ReSeeds decided to see if it could turn vegetative again. It took two months more before that plant began growing rapidly—but a cutting started at the same time could be ready to flower in sixty days.

Mr. ReSeeds thought he could take cuttings from his rapidly growing rejuvenated plants--they looked healthy enough to quickly outgrow the damage. However, he had given his plants

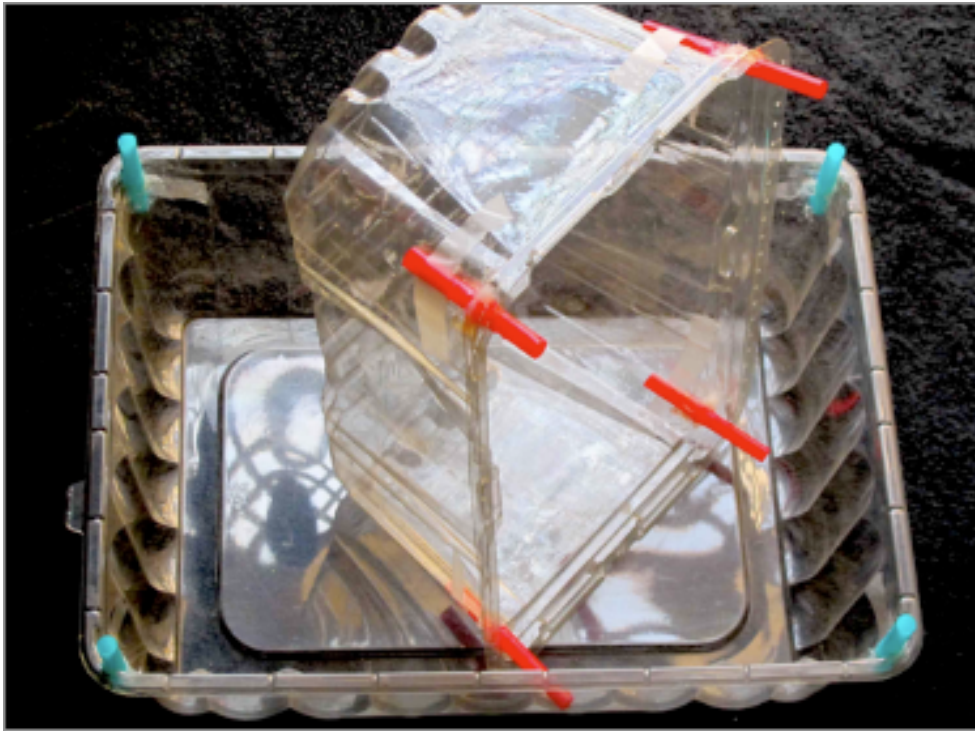
too much fertilizer and all the new growth was thick, juicy, and weak. These cuttings would rot, not root. Since he really wanted rooted cuttings, he took some anyway and let them 'rest' in 0.5% glucose (known as dextrose or 'priming' sugar at brewshops) in water for two days under moderate light. Then he pots them up as if they were freshly-taken cuttings. He'd read somewhere that this might work...

But Mr. ReSeeds is clumsy--he dropped this box of cuttings. Mr. ReSeeds tells his friend, and he received a fistful of cuttings that came from the lower branches of his friend's indoor plants. Many of these weak cuttings will not root, but perlite/vermiculite and plastic cups are cheap and Mr. ReSeeds is willing to tolerate the losses.



This is the plant propagation box that Mr. ReSeeds' built. It got too hot for these violets, so the next box Mr. ReSeeds filled was

kept in dimmer light. He also learned not to use potting soil because it's too dirty. :-) Low-watt LED lights work well if the local lighting carries too much heat; also multiple centimeter-sized holes in the plastic can help release hot air, especially when using larger boxes.



What to do when you hear "You've got that clone? I wish I had it too," and they don't live near you.

Mr. ReSeeds did some research, and purchased vermiculite and perlite (even though he wanted the more expensive rockwool cubes), and cut notches in the bottoms of new small 3 oz. (100 mL) plastic cups. Then he sprinkled a little water in his bags of perlite and vermiculite to keep the dust down, mixed the two, and filled the notched cups with this mix. He poured a tiny amount of rooting hormone in a small jar for applying to cuttings. (Never to put anything into the original bottle of hormones--that bottle only gives and never takes, otherwise plant diseases might spread from it.)

To take cuttings, Mr. ReSeeds trims leafy shoot-tips that have two mostly-expanded leaves. He cuts them a centimeter below the lowest expanded leaf, dips the cut base into water, trims off the last leaf, trims the leaf above that by half, and puts the prepared shoot in a large plastic cup half-filled with clean water. After there's a few cuttings in the cup, he fills it up and lets the cuttings soak in room-temperature water for an hour because he's had bug problems.

After he drains the cup, he dips only the bases of the cuttings in the rooting hormone (not enough rooting hormone powder is *much* better than too much; the liquids are easier but more expensive). Using the slightly moistened perlite/vermiculite mix, he fills clean plastic cups or small plant pots. He pokes a pencil into the mix, and when he has a cutting ready, he exchanges the cutting for the pencil, wets the perlite/vermiculite, and packs it down enough to prevent the stem from moving even if the top part bounces around a bit. He seals the greenhouse using bindery clips to hold the plastic on. Mr. ReSeeds reluctantly learned that three ounce plastic cups will tip over easily when filled to the brim, so he uses larger cups for larger cuttings. Mr. ReSeeds thinks the cuttings will try to bloom if they get long, uninterrupted nights, so he keeps the cuttings in moderate-to-dim light all the time. He also learned that too much light stressed the cuttings, as did too much water, but his worst problem was when his greenhouses would get too warm. When this happened, the cuttings might not show symptoms for a day or two (which made tracking down the problem difficult). (An extra air-hole can solve an overheating problem.)

When a few of his cuttings finally rooted (about three weeks), he discovered that they needed time to adapt to the drier air. He solved this problem by putting all the rooted cuttings in another greenhouse and progressively unsealing it--but during the winter, when his house was artificially heated, the air was so dry it took his cuttings a week to adapt.

When Mr. ReSeeds finally got cuttings, he sprayed them with his favorite pest-discourager, then after ten minutes he sprayed them again with plain water. He put the twice-sprayed seedlings in a separate growing area for smaller plants. This area was going to be pest free, said he. And by occasional spraying with potassium salts of certain fatty acids (a mix of K(C-16) and K(C-18), also known as S-_-_'- Soap) and rinsing the plants with water afterwards, it was so. It was harder to keep the larger plants bug-free, but only a little effort prevented the bugs from becoming a problem. If he must spray flowering plants, he sprays again with water and/or rinses his freshly-harvested plants with room-temp water. Mr. ReSeeds isn't too worried about it because he prefers edibles.

When it's time for flowers, the classic advice is to give plants twelve hours of light and twelve hours of **uninterrupted** darkness. However, if cannabis plants are grown under constant light*, then the plants may flower with fewer hours of uninterrupted darkness, so it is possible to have plants bloom during the long days of summer. If Mr. ReSeeds lived where cannabis was legal, he could expose his plants to the sun during the day, and at night he could shine lights on the plants. When he wants to go to blooming-tons, all he has to do is remove the night-time lights.

*If the plants experience constant night-time light at least three times brighter than the full moon, that counts as daytime to the plant.

Harvest when few new flowers form. Others say to harvest when the clear resin glands turn translucent after appearing clear. Harvested plants should quickly be taken out of the grow area-- these plants are most likely to have undetected pest populations that could be spread to un-infested plants. To dry the plants, Mr. ReSeeds hangs branches upside down and trims off most of the

leaves--any leaf with a long petiole/stem/stalk is trimmed off. The rest (small leaves, buds and stems) are left hanging to dry someplace with at least moderate ventilation. Drying this way should take a week. If the weather is especially wet, Mr. ReSeeds will reluctantly cut the best buds for fan-drying on pre-cleaned window screens. He doesn't like handling the buds so much and the results aren't as good.

Mr. ReSeeds soon has two plants that are his favorite source for cuttings. He decides to try to cross them, even though they are both females. His research revealed that flowering female plants tend to produce a few male flowers if they do not succeed in seed-setting, but few good varieties will do this because that spoils the *sinsemilla*. By this time, the most desirable plants will have desirable buds, and delaying harvest-time until the seeds mature will reduce the value of the buds. If these male flowers pollenate other plants that have not been flowering as long, then getting seeds is much easier. Rumor has it that a flowering female will produce a few male flowers if its 'nighttime' is interrupted by light every once in awhile--but Mr. ReSeeds couldn't get this to work. He decided to use chemicals.

He mixed 0.35 grams of silver chloride in 500 mLs of water in a sealable glass container. Then he mixed 1.3 grams of anhydrous sodium thiosulfate in 500 mLs of water in another sealable glass container. He stores both containers in the dark. These solutions will easily keep for a couple of months at room temp, perhaps longer if refrigerated (experiment not done). The same day that Mr. ReSeeds decides to put a vegetative plant on a trip to BloomingTons, he mixes 50 mLs of the silver chloride solution with 50 mLs of the sodium thiosulfate solution in a small mist-type sprayer, then adds a drop of plant-safe soap. He loosely twists a small piece of wire on a small lower branch of the plant destined to change, then sprays that branch. He does this on the mornings

of several days running--until he runs out of solution. Mr. ReSeeds thinks that one spray would work because accidentally spraying other parts of the plant has caused additional, unwanted male flowers to form, but his friend tells him to spray at least twice —some plants are much more resistant to this treatment. The pollen from male flowers on female plants makes 'feminized' seeds, which should sprout into all females (but hermaphrodites are possible, usually not seen unless many seeds are sprouted). It is best to fertilize a different female plant than the pollen donor. Since the pollen is shed late, near the end of the time of cannabis flowering, self-seeding is unlikely to produce much. A plant that hasn't been flowering as long should get the pollen. (Another, very good reason... family trees should have branches. :-)

Success! Mr. ReSeeds has many seeds now--enough to share--and the world could become slightly greener. Will you help?

END

Random babbling

The story of the rate-limiting step: Mz. Medical Mara has some plant extract. She vaporizes this extract, inhales the fumes, then exhales into a deflated plastic bag. Much of the vaporized extract is in the plastic bag because her lungs are the rate-limiting step—the slowest part of this chain of events. Mz. Mara's lungs determine how fast everything else can happen.

Inhaling pressurized air is bad for human lungs. Don't do it.

More Of The Same

It is not that humankind domesticated cannabis; it is cannabis that ensnared a big-brained mammal into perpetuating various

canna-genetic sub-species. Wild cannabis grows here and there, just as it has always done; but humans have spread its descendant-seeds world-wide. Humans have sieved the canna-genetic code for specific traits, but all of the selectable traits were cannabis traits (so far). Humanity has been canna-altered; perhaps as much as domesticated cannabis, but unaltered wild cannabis still grows. A handful of seeds from potted cannabis plants bred for sticky flowers still contain the genetic ability to live outdoors and eventually go wild again--despite the intense genetic pressure that humans have imposed. At present, the fates of cannabis and humanity are woven together; we can only hope that any humans who might manipulate cannabis DNA are motivated to do so for reasons other than paychecks and profits. Whatever happens, those who swear by cannabis will never swear at the great weed; such a plant is a gift that is humanly possible to use humanely. Let us speak of *Cannabis sativa* without slinging slobber; the insanity does not come from a beautiful green passenger on Spaceship Earth; it's merely the media-magnified voices of some noi\$y human\$.

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