

Anthony Buckler  
*Cannabis Parthenogenesis And The Means To Induce*  
USPTO #63/337,754  
Maryland Department of Agriculture  
Industrial Hemp Research License #24-127

I would like to offer my support for House Bill 556 to be passed with an amendment. To adequately validate my request I need to share my personal medical cannabis cultivation experience and some of my research.

I began researching cannabis over a decade ago. When I started cannabis cultivation research my approach was basic and according to known science. I began with feminized cannabis seeds to establish mother plants. These mothers were kept in a vegetative state for nearly six (6) years and had clones clipped periodically to create new plants. The clones then matured beside the mother plants until ready to be flowered. Doing this allows for the mother plant's potency to increase and thereby increases the potency of the clones over time. This increase in potency over time allowed me to cut back overall cannabis flower production because I required less cannabis flower to meet my medical needs.

When a clone is ready for flowering, it is moved away from the mother to a different light source, photoperiod, and provided a different nutrient schedule. It is in the flowering stage of medical cannabis production that a cannabis plant starts producing its resin. If unpollinated, a cannabis plant will freely flow its resin until harvest. Medical cannabis is usually cultivated in this manner of development because it yields the most medicine, or resin, per weight. Once I achieved this standard, I began to work on a formula to increase the resin flow of my plants. It took me four (4) years of complex biochemistry to accomplish this.

After years of cultivating medical cannabis and experimenting with various bioengineering methods involving light, I discovered a new form of cannabis that does not correspond to known cannabis physiology. This new cannabis plant, *Cannabis Parthenogenesis*, is distinctly different from all known forms of cannabis because it is asexual. This plant does not need to be pollinated; in fact, current research suggests parthenogenetic cannabis is incapable of pollination. Current theories support the production of seeds at the beginning of the flowering stage, rather than after fertilization. This distinct reproductive characteristic alone classifies parthenogenetic cannabis as an invasive plant species.

After securing a plant utility patent from the United States Patent and Trademark Office for *Cannabis Parthenogenesis And The Means To Induce*, I conducted a cannabis growth experiment with Frostburg State University's David Puthoff Ph.D, with licensing provided by the Maryland Department of Agriculture. The purpose of the experiment was to document the

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mutagen effect of light-emitting diode growth lights. With strict time constraints, I was able to provide three (3) feminized hemp control samples and three (3) mutated hemp samples at two (2), four (4), and six (6) weeks post-flowering and included a normal and mutated version for each week. After testing was completed all samples were delivered to Frostburg for examination. All control cannabis samples developed normally and were unremarkable. The mutated samples all appeared to be normal from a distance. All mutated samples had a seed at every calyx within the flower. Because there was no pollen present, seed production in my plants was triggered by the mutative effect of LED lighting.

Parthenogenetic cannabis is not a medical purpose cannabis plant. Its purpose is to produce seeds and because of this, it is an industrial purpose plant. Even if conventional cannabis cultivation methods were used to cultivate parthenogenetic cannabis, it will still produce seeds. The act of seeding is contradictory to producing resin from cannabis and with light emitting diode (LED) growth systems inducing the seeding mutation to cannabis these systems are sub-standard to effectively produce medicine from a cannabis plant. It is my research and grant for *Cannabis Parthenogenesis And The Means To Induce* that compels me to respectfully request a ban on the use of light emitting diode (LED) growth systems for commercial cannabis cultivation. This will eliminate all cannabis flower advertising from being misleading and further protect consumers, while also protecting the genetic diversity of known medical cannabis strains.

### **Title 13**

Currently all LED cannabis cultivators are misleading Maryland's medical cannabis consumers. All cannabis flowers should be sensimilla particularly in medical markets. Light emitting diode (LED) growth systems are incapable of producing sensimilla. Any LED cannabis cultivator advertising "medical cannabis flower" or even "cannabis flower" are deceiving their business customers and cannabis patients. The deception is directly related to the forced seeding of the cannabis flower by a manufacturing defect induced from LED lighting. Additionally, with the seeding process in contradiction to resin production, it is my belief that this "watering down" is done intentionally, just to sell more cannabis flowers while saving on energy costs. With inadequate resin production medical cannabis patients are forced to buy more substandard medical cannabis flower and this only increases the cultivator's profits and industry statistics. Unless LED cannabis cultivators advertise their cannabis flower products as "seeded by defect" they are willfully deceiving their customers. The defect caused by LED lighting can only be fixed by removing the lighting. With cannabis cultivators unwillingness to make this change I feel it is necessary to ban the use of light emitting diode (LED) growth systems for commercial cannabis cultivation to protect cannabis consumers from misleading advertising and defective products.

### **Sensimilla Abstract**

The cannabis plant existed naturally prior to the modern feminizing of medical grade cannabis. When produced via indoor cultivation methods, the entire purpose of feminizing cannabis is to produce unpollinated female cannabis flowers to ensure the cannabis plant freely flows its resin. The resin is where the vast majority of the cannabinoids, or medicine, is contained. The importance of producing unpollinated female cannabis flowers is determined by the cannabis plant's physiology. With optimal lighting, nutrients, and atmospheric conditions, combined with the lack of pollination encourages the cannabis plant to produce and excrete its resin unadulterated. It is precisely when a cannabis plant is pollinated that it begins to stop its resin flow. Its resin, though it may be a medicine for us, is used by the cannabis plant to entice pollination, and when it's pollinated it no longer needs to entice pollination. This is why it is imperative that all "medical cannabis" must be, or at least have the opportunity to be, unpollinated feminized cannabis, and this is known as sensimilla. When making determinations for the cultivation of cannabis, all current science available should be used to produce sensimilla.

### **Cannabis Waveform Mutation Abstract**

The use of light emitting diode grow systems for cannabis cultivation has never been adequately researched. It is the form of energy emitted by LEDs that concerned me with a seven second glance of the LED waveform. LEDs emit a square waveform and there are no equivalents in nature. There is a similar form of energy and that is a laser. Though this may sound absurd to some, the energy emitted by LEDs has no frequency and is distinctly different from other known cannabis growth systems, which utilize alternating current to sling light and are created by heat. The physics of LED lighting are distinctly different. LED lighting is the projection of heat and light interlaced without a frequency. LED is unwavering projected heat and light energy and this will cause a cannabis plant to mutate with the square waveform.

### **Medical Cannabis Abstract**

The term "medical cannabis" and "medical marijuana" existed long before any codifying of law. They were around before industry began and the words actually had meaning. Medical cannabis means sensimilla, and sensimilla is a latin word meaning "without seed." The reason sensimilla is preferred for medicine is simple. Cannabis plants are highly photo-sensitive. This means the plant's entire life cycle must be controlled with light to efficiently and effectively produce medicine. When done properly you will have a vegetative photo-period and a flower photo-period, each being different in duration, intensity, and color of lighting. Working like this

allows you to keep a mother plant theoretically indefinitely. This allows you to increase plant potency over time and gives you a source for clones. Clones can be developed directly beside the mother until ready to flower. Establishing a mother plant and taking clones allows for a few things. First, you now have a reliable source of female cannabis plants and no seeds are required to be germinated. Second, potency goes up the longer the mother is in the vegetative state. Third, if there are any abnormalities it is easy to spot. Training yourself to cultivate in this manner will make it really easy to identify when something is wrong, and with cannabis something wrong can turn catastrophic quickly. When the female clone has matured and is ready for flowering they are moved away from the mother. They are provided with a different color of light, as well as duration of light and nutrients. When a cannabis plant is flowering in this manner and no male plants are present, and no pollination occurs, it is now in prime condition to provide our medicine, in the form of its resin. In nature, the resin is what the plant uses to entice pollination. If unpollinated, a cannabis plant will freely flow its resin until harvest. If pollinated, it begins to shut down resin flow because it no longer needs to be pollinated. This is when the plant begins to put its energy into seed production and inhibits our medicine. It is particularly this reason why it is imperative for “medical cannabis” to be cultivated to the standard of sensimilla.

### **Cannabis Parthenogenesis Morphology**

Induced Cannabis Parthenogenesis presents as a mimic to normal feminized cannabis and to the untrained eye. Under continued exposure to a mutagen light source in the vegetative state a cannabis plant will eventually produce a single pistil at the solitary flower on the main stem. The solitary flower is simply an indicator of plant sex and normally shows two (2) pistils on feminized cannabis plants. When a mother cannabis plant is left to grow under LED lighting and clones are taken for flower, eventually every clone will have only one (1) pistil at the solitary flower. Under normal conditions with feminized cannabis plants, the appearance of a single pistil clearly indicates that the other pistil has been pollinated and has started to become a seed. With parthenogenetic cannabis this is not true. Parthenogenetic cannabis only produces a single pistil after the mutation has taken hold. The plant will produce seeds regardless, it needs no pollination. It is the programming of the cannabis plant to be parthenogenetic that drives my belief that the parthenogenetic cannabis flower should not be sold to the public. However, providing a nutrient schedule to increase resin flow may be beneficial and allow for the harvesting of the resin. Farmed in a responsible way and harvested for its resin only is the only way to avoid any potentially deceptive business practice. Parthenogenetic cannabis, being newly discovered, is different from what’s known as “marijuana” or “hemp”, and production methods should reflect that.