mizuno1-Edgar

From: Bill Best [bestb002@hawaii.rr.com]

Sent: Tuesday, February 05, 2008 2:27 PM

To: HLTtestimony

Subject: from a medical marijuana patient on Maui since 1971: Please distribute to all voting on this issue. MAHALO!

Aloha Council Member,

I am writing today to urge your support for House Bill 2678, a bill that seeks to improve Hawai'i's medical marijuana program.

The most critical issue facing Hawaii medical marijuana patients is the safe and legal acquisition of medicine. Theft, armed robbery, and helicopter eradication programs continually threaten patients.

The Hawaii Revised Statute states that legal medical marijuana patients can acquire and possess the medicine that their doctor recommends, but patients have no choice but to acquire from an unregulated and unethical black market.

It is not in the interest of Hawai'i's public health to force patients into the black market.

An important question is:
How does a patient who is diagnosed with cancer and to undergo chemotherapy immediately acquire the medicine that his/her doctor recommends?

In this case, there is not enough time for the patient to grow, harvest and cure the medicine that will help with nausea during immediate chemotherapy treatments, and any stress from buying medicine from drug dealers will not help the health of the patient.

Because of conflicts with federal law, Hawaii does not provide for a legal means of supplying marijuana. Allowing patients to form collective and co-operative operations will help individual patients to have their needs met immediately. By employing a "certified facilitator," it will ensure that patients will have access to the right strains of medical marijuana most suitable for their ailment.

According to the Hawai'i Revised Statutes, a medical marijuana patient must control (through lease or ownership) the area of his or her grow site.

By creating this model allotment system on the island of Maui, agriculturally zoned family farms will be able to secure and lease individual plots of land to individual patients.

This plan will not violate state or federal law. There will be no distribution of marijuana. Money will only be exchanged over the land lease in the secure facility.

The State of Hawai'i has had its medical marijuana program in place for eight years and it is time to rectify some of the problematic aspects of the law.

For the majority of Hawai'i's medical marijuana patients, it is extremely difficult to consistently grow medical-grade marijuana to continuously meet their needs. Theft, mold, bug infestation, disease, lacking knowledge of successful growing and curing techniques and time consuming trial and error are just a few of the issues patients face.

Allowing patients to grow together in a secure location with access to a knowledgeable facilitator will make it easier and safer for patients and law enforcement. There will be no need for marijuana eradication helicopters to fly low over backyard medical marijuana grow sites.

Once again, I urge you to vote "yes" on HB 2678.

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Aloha,

Bobbie Best

280 Hauoli St.

Wailuku, HI 96793

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From: mark mcdade [mauimark40@gmail.com]
Sent: Monday, February 04, 2008 9:43 AM
To: HLTtestimony
Subject: Fwd: medical marijuana

---------- Forwarded message ----------
From: <mauimark40@gmail.com>
Date: Feb 3, 2008 9:38 PM
Subject: medical marijuana
To: testimony@capitol.hawaii.gov

Aloha,

My name is Mark McDade and I would like you to support House Bill 2678, and I will tell you why. I have been diagnosed with the crippling disease

Ankylosing Spondylitis, I also suffer from lordosis, kyphosis and scoliosis of the spine. I have multiple fusions at each level of my spine and hips. There is no cure

or surgery that can reduce the pain that I suffer. The doctors have told me the only option I have is pain management. Before I began using marijuana I was taking 50-60mgs of methadone a day. I was taking with the methadone between 5-8 pills a day. These narcotics prescribed by physicians included; Oxycodone, Lortabs, Oxycontin and a whole host of "pain killers"

When I moved to Maui in 2001, I was told about the blue card issued by the State of Hawaii for people like me who suffer from extreme pain. So, I went to the

Doctor and I was issued my Blue Card for the use of marijuana. I began smoking the marijuana and it had an immediate affect on my pain. It helped reduce my severe

back spasms, and also my pain. I tell you this because; by smoking marijuana I have reduced greatly the amount of "Pain Killers" I have to take. Combined with marijuana, I now take between 15-20mgs of methadone and only have to take stronger pain pills when needed, not everyday, like before.

Marijuana is not for everybody, I understand that, but for people like me it is a necessity. Marijuana does not have the adverse affects as do the other prescription

Drugs I was, and, I am taking. Please support HB-2678 for people like me and all the others who suffer from severe pain.....Please.

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Sincerely,

Mark McDade

Mauimark40@gmail.com

1-808-575-9714

00015

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From: Andrea Tischler Compassion Flower Inn [reservations@compassionflowerinn.com]
Sent: Friday, February 01, 2008 3:53 PM
To: HLTtestimony
Subject: Testimony RE HB No 2675 and HB No 2678

Honorable Legislative members of the Committee on Health and Committee on Human Services and Housing:

I would like to offer my support for HB No. 2675 and HB No. 2678 regarding medical marijuana legislation that you will be hearing on February 1st and regret that I will not be able to personally testify. I am a cannabis activist and have worked in the policy reform movement for nearly two decades. I am a resident of Hawaii and live in Hilo. My thoughts and beliefs are that the medical marijuana legislation which became law in 2000 in Hawaii was seriously deficient in that it neglected to address how to implement a distribution system. What is the point of having a law that states the patient can obtain a physician's recommendation and a State license to possess and use medical marijuana, which at the same time disregards a safe and equitable system for ensuring that the patient has access to the medicine? Currently, if a patient does not have the right circumstances; the space to grow, the ability to grow or does not have a care provider, he or she is left to either suffer unnecessarily or support the criminal world by buying the "medicine" from a street dealer? And, who knows about the quality of street medicine or the possibility of being robbed. This is a very uncompassionate quagmire left for the patient to figure out and deal with which I find embarrassing and deplorable.

I support HB 2678 and urge you to pass it. I believe it to be important that the State of Hawaii Department of Health develop and implement a secure growing facility and oversee the growing and distribution of medical marijuana to no more than fourteen patients. Maui is a perfect island for this pilot project to take place. If successful there it could be a model for other counties. The organizers have worked hard in developing this concept and have much experience and dedication to see it through. This is the most secure way to provide a delivery system because of the oversight of the Health Department which provides for checks and controls. With the number of medical marijuana patients increasing statewide, expanded small facilities organized around a limited number of patients will be better able to provide for future patient needs.

I see this bill as being very beneficial for patients. The way the law is currently written with one patient to one care provider, the patient is entirely dependent on only one individual. I have listened to many patients saying that their provider did not provide them with the medicine, sold it themselves or gave them inferior product. Secure growing facilities will work while at the same time not cause the ire of the Federal government such as in the case of the recent raids of large dispensaries in California.

I, also, support HB 2675 the Reciprocity bill in that many medical marijuana patients wish to travel to Hawaii from the mainland. Do we expect them to not use their medicine while on vacation? Passing this into law will encourage a greater number of vacationers to come to Hawaii thereby supporting the state and local economies. This legislation will also assist new arrivals in the transition time it takes for them to find a local physician. This is very much a matter of equal rights for marijuana patients.

Until marijuana is federally rescheduled as a prescriptive drug, we are going to continue to have a conflict with Washington. The states are ahead of the Feds on this one for it is only a matter of time that marijuana will be a FDA approved prescriptive drug. In the meantime, we cannot allow suffering and dying patients to go without safe access to a medicine that is so efficacious at relieving pain and suffering for so many serious and life threatening illnesses. A secure grower facility will provide safe access and organic medicine. It is equally important that the patient be able to obtain a strain of cannabis which is best for his or her condition or illness. This is still another advantage of having the Dept of Health make that assessment.

I beg you to pass HB 2678 and HB 2675 today. You have an opportunity to make a difference on matters of very urgent concern. After eight years it's time to take action. Mahalo.

Jamie Andrea Tischler
564 Hoaka Road
Hilo, HI. 96720
(808) 959-8091

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2/3/2008

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The Challenge of "Medical Marijuana"

Drafting Legislative Strategies to Meet the Future

Laurence O. McKinney

Draft Copy, Not for Distribution

The Challenge of "Medical Marijuana"

Introduction: A Legal Paradox

National polls consistently indicate that a majority of Americans support the use of marijuana as a medical drug for certain conditions when prescribed by a registered medical practitioner. This national shift towards a more open view in regards to marijuana has not, however, resulted in re-classification of the plant or its active drug, delta nine THC. While THC identical to that found in marijuana is a legal pharmaceutical, the Drug Enforcement Administration continues to classify marijuana, along with heroin and crack, as an illegal drug.

Fifteen states are now drafting, or living with the aftermath of, legislation attempting to respond to the will of the people and the medical establishment with regards to medical use of marijuana. The challenges being posed already seem insurmountable as lawmakers face a variety of legislative initiatives and referendums mandating this alternative therapy. At the same time, any serious attempt to standardize, regulate, or control medical marijuana within their borders could be considered a brazen attempt to avoid federal drug laws, making lawmakers technically into lawbreakers. This is the paradox they face.

The root cause of this schizophrenic relationship with a drug that nearly all parties agree should be regulated and controlled has been obstruction at every level by the federal drug agencies. By stubbornly maintaining marijuana in its criminal category and waiting for Congress to force them to do otherwise, the Drug Enforcement Administration has defied even its own Chief Administrative Justice, Francis L. Young. In 1987, after a series of hearings, he ruled that marijuana must be re-classified. Twenty years later, his ruling is disregarded.

Popular pressure is building up to force the drug agencies to relinquish their heavy-handed criminal-only classification. In the last Congressional vote dealing with medical marijuana, the measure failed 160 to 260. This may sound large, but what it really means is that a shift in fifty voting districts would result in decriminalized marijuana. At the same time, states are drafting and passing legislation and establishing boards and systems to regulate the use of medical marijuana in defiance of federal statutes. Each year the number increases. Like burrowing creatures undermining a dam as pressure builds up on the other side, the only possible result is catastrophic failure. The federal statutes will fail, and the states must be prepared for the flood that may follow.

In this instance, when the number of states and municipalities with medical marijuana statutes reach a tipping point, swift congressional approval of new federal statutes will occur. With a Democratic administration in charge of both houses and the executive branch, this could be sooner rather than later.

If a state already has in place appropriate language in its statutes to require standards for "medical marijuana", establishing its right to control the local market, it may be excused for not applying them until the federal statues change. However, if the statues change and the language is not already there, the states could already have lost their best chance to finally bring order, stability, and regulation to medical marijuana.

With appropriate language in place, any state or municipality will be able to act immediately upon the shift in federal statutes to gather control over legal production and distribution of marijuana for medical or other purposes. By preparing for this inevitable future, they will have their states ready when the federal classification changes to assert local control over a locally produced, renewable, medical product.

Guidance is Hard to Locate

An underlying challenge facing states and municipalities dealing with the impact of recent "medical marijuana" legislation is determining both the source and the makeup of "medical marijuana" itself. Since the plant is an illegal substance under federal drug statutes, designation of either a source or a system to obtain and distribute medical marijuana could implicate both parties in the commission of a federal crime. As no municipality wishes to be indicted as a party to conspiracy to evade the federal drug laws, most recent medical marijuana legislation has been vague when describing exactly who was to supply it and how it was to be regulated. During the period between state and federal decriminalization, this problematic situation will not improve.

The result, as in California, has led to a paradoxical situation in which individuals simply register as growers and are allowed a nearly free market economy to sell whatever they claim to be "medical marijuana", unless they are indiscrete and are arrested by federal agents for being too blatant.

With state after state passing medical marijuana legislation, and only so many federal agents available, it is only a matter of time before federal laws must relax as well. Once marijuana is decriminalized for medical purposes, the overriding question will become how this medical marijuana can be supplied within a legal framework. If local states and municipalities prepare for this inevitable event, they are seizing their best opportunity to control the drug.

But where can one locate legitimate counsel when the entire matter concerns an illegitimate plant? The cannabis plant comes in many varieties, and rarely breeds true. Those with the botanical expertise to grow decent cannabis are scholars in laboratories or amateurs hoping to make a new life from their old grow room. The only real "grow professionals" are illicit growers, smugglers, and dealers chuckling to themselves as yet another layer of law enforcement is written into state law to license, patrol, control, and inspect new wannabe pot-trepreneurs selling cannabis of whatever quality at whatever the market will bear. Pharmaceutical firms want no part of it. They think medical marijuana is at the level of Celestial Seasonings and they're not farmers.

This lack of hard data makes it difficult for states and municipalities to locate practical guidance that does not originate in activist organizations or a drug agency, all pro or all con. The question could be asked: Why aren't there organizations or even commercial firms with useful solutions and realistic answers to these questions?

The History of a Problem

Part of the source of this problem lies in the manner in which the federal drug agencies, branches of the Justice Department since 1968, have twisted law and science to promote and control a lucrative drug war. A popular criminal substance creates "criminal" activity and funding for law enforcement agencies. Since 1973 marijuana has been kept in Schedule 1 with heroin and crack cocaine, creating millions of "drug abusers" to keep drug agencies well funded.

When Attorney General John Mitchell created the War on Drugs with his Controlled Substances Act in 1973, the active drug in marijuana, THC, had not even been isolated. As a result, the CSA defines marijuana simply as the leaves and tops of the cannabis plant. The fiber, stalks, and oil were excluded as hemp products and remain legal to this day. The plant itself was the "substance."

As the Controlled Substances Act allows drug agencies to declare anything from molecules to shoe laces a "substance", as soon as THC (delta 9 tetra-hydrocannabinol) was isolated, the drug agencies immediately placed it in Schedule 1 to maintain control over marijuana. However, to justify Schedule 1, a "substance" must be easily abused and have no medical use. Pure THC is impossible to make without pharmaceutical-grade technology, it is nontoxic, and it already had accepted medical use for nausea.

The unlikely solution was to decree THC-in-in-a-capsule to be a separate "substance" from the "substance" THC or the "substance" marijuana. This slight of hand allowed drug agencies to maintain their control over THC that went into the legal product, called **Marinol**, even though the FDA had ruled that synthetic THC and natural THC were identical. The DEA was so determined to maintain control over marijuana it took extraordinary measures in 1987 to block the one attempt by a legitimate pharmaceutical firm to process pure THC from the plant.

Meeting a Need for a Regulated Cannabis

In that year, Cannabis Corporation of America, sole pharmaceutical firm at historic DEA marijuana hearings, nearly became the first producer of natural THC. Cannabis Corporation argued since the THC molecule from the plant and from the lab were identical, they should be allowed to grow cannabis and use a patented process to extract pure THC for legal THC-in-a-capsule. Unable to dispute the FDA ruling that there was no difference between THC in sesame oil and THC in a hemp plant, the drug agencies blocked them instead by insisting Purdue Pharma, the company with an interest in the natural THC, test every

possible plant impurity at any level for toxicity. This was an impossible task and Perdue Pharma backed out. But why were the drug agencies so concerned?

The reason was that if marijuana became the feedstock for a legitimate Schedule 2 drug, THC-in-a-capsule, it could force marijuana into the same legal schedule. For instance, coca leaf is legal as a highly controlled Schedule 2 "substance". This is because coca leaf is required to make the legal Schedule 2 drug medical cocaine, used as an anesthetic and vasoconstrictor. If Cannabis Corporation had sold natural THC, it could have forced marijuana into Schedule 2 in the same manner. The drug agencies could have lost control of it.

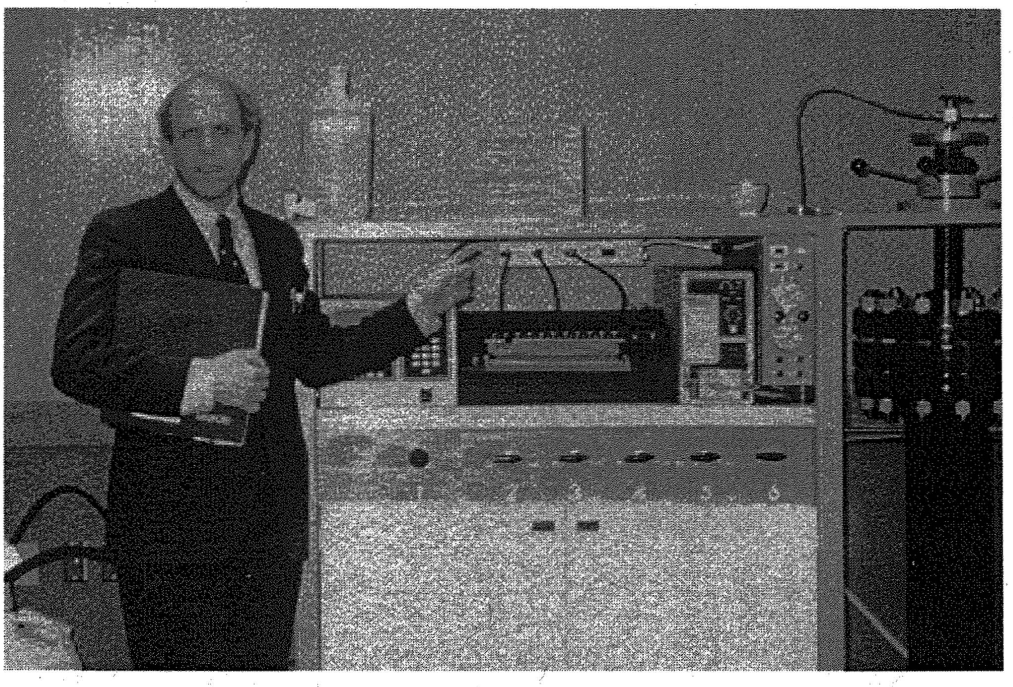
More to the point, by 1987 Cannabis Corporation had already worked out the steps required to create a consistent supply of cloned marijuana under rigidly controlled conditions. This was the first necessary stage in extracting the pure THC. Cannabis comes in hundreds of strains, and ironically high THC strains aren't best for extraction because of the nature of the final purification process. Since that time, no other firm has tried to create medically consistent cannabis.

However, the technology remains sound, and it has been thoroughly updated.

"Medical Marijuana" Available for Nearly Twenty Years

When the Corporation submitted its brief "*Cannabis Corporation's Response to Judicial Inquiry Concerning Medical Marijuana*", it established a basis for legal medical marijuana. Twenty years ago it outlined the basic steps required to create a standardized and regulated marijuana that was biologically active, sterile, and with exact levels of THC.

In 1987, this required expensive extraction and analysis technology, training in high-pressure liquid chromatography, and a facility twice the size of a basketball court. This could have provided feedstock for a pharmaceutical line, but a smaller version of the same system can provide medical marijuana. It is now the year 2008. Although most of the original cannabis patents have lapsed, technology has progressed in nearly every part of the original process, making it simpler, much more compact, and less costly than before.



Laurence McKinney with Millipore HPLC unit for THC extraction procedures

What did not progress, unfortunately, was any professional interest in the commercial production of sterile, safe, standardized marijuana. Not one of the marijuana activist groups has within their leadership any representation from business or management, no pharmaceutical executives, botanical experts, or even plant entrepreneurs. With marijuana in Schedule 1, any involvement with any aspect of the plant in any way remains a "criminal conspiracy". This leaves few legitimate experts who can document the source of their expertise without exposing illicit experiences. The country's foremost amateur cannabis cultivator, Ken Morrow, whose yields consistently surpassed any research efforts, remains in hiding.

On the good side, during the twenty years since Cannabis Corporation established the basic steps for regulated and consistent cannabis, improvement in sensors and process control has been rapid. The plant has been studied exhaustively, and many cannabis strains have been isolated. Both extracts and pure THC are now available in Schedule 3. This means that the technology already exists that would allow a municipality to establish and manage its own medical marijuana facility in about the space of a large three-car garage.

Advantages of Municipal Control

At present, establishing such a facility would be such blatant defiance of federal marijuana laws that it could invite censure, attack, and even prosecution. There is no law, however, against progressing along lines taking into account that such a facility may be necessary in a few years, and include appropriate language into any current draft state legislation.

There are many positive outcomes to this method of eventually short-circuiting the entire question of who's-going-to-grow-what-sort-of-marijuana-and-how-do-we-test-it-and-track-it? Once a legislative body realizes how relatively simple it is to "grow their own", a municipal facility offers substantial rewards both in the present and in the future.

The immediate values are clear. First, the entire process of licensing could be avoided since all medical marijuana would come from one completely secure facility. Second, recipients could purchase it at designated pharmacies rather than from local dealers or growers. Third, this cannabis would be sterile, activated, consistent, and controlled, providing a safe regulated medication and avoiding liability issues. Fourth, income from medical marijuana dispensed at the pharmacies could be returned to operate the facility, not support a new network of pot farmers. Fifth, with a clear way to distinguish medical marijuana from illicit marijuana. law enforcement costs would be significantly reduced. These are but five major areas of savings and improvement and there are many others.

Perhaps as important as the immediate advantages, by merely including the language in draft medical marijuana legislation to require a consistent medical marijuana, the drafting body will effectively draw the first line between a legitimate controlled and regulated marijuana and anything else at all. It will set up a wall between the marijuana on one side of the law, and the marijuana on the other side.

The standards set are no more than the same as we set for wine or beer; and they can easily be maintained with current technology. It will be impossible, however, for most illicit producers to create a consistent form of marijuana. In the period between the present need for legislation and the ability to enforce such standards, states will have to endure the problems inherent in such an unregulated product and a chaotic marketplace. However, with a plan in place a state or municipality can quickly convert to community supply and control the moment the laws change.

Since medical marijuana from a municipal facility could be easily identified by its chemical makeup, there would never be a question as to what came from a legitimate municipal facility, and what came from an illegal source. Over time, should the laws on marijuana continue to relax, this would also ensure that the municipality, rather than either illicit dealers or some large pharmaceutical company, would eventually control and profit from locally used marijuana. Such a facility could provide patients with better marijuana than anyone could grow.

It seems simple, and it is. By establishing basic quality standards for medical marijuana, a state can not only ensure its citizens will be getting what they paid for, they will be creating the basis for a new marijuana policy, controlled by health and social services, capable of putting large-scale illicit marijuana on the slope to extinction. If better medical marijuana is available from a legitimate source, everybody will do better except the illicit dealer.

By including standards for "medical marijuana" in state legislation, the states have the opportunity to write into law safe, efficacious and regulated cannabis. In doing so they can reduce, rather than raise, law enforcement costs, be certain that patients receive the best medical marijuana possible, and mend the current paradox that makes citizens patients for taking THC-in-capsule but criminals for scavenging it from a plant. This is the first step in community control over a challenge our society has ignored much too long.

Making Medical Marijuana

Fortunately for lawmakers, language in most draft legislation makes reference simply either to cannabis or marijuana without further definition. This rules out pharmaceutical extracts or preparations of pure THC, but leaves the way open for a more specific definition at the state level. This is very important.

Marijuana is a plant with hundreds of different strains. A major argument in favor of medical marijuana is that other components of the plant unavailable in **Marinol** mitigate bad effects or improve good ones. Cannabidiol, cannabinol, cannabigerol, and cannabichromene are but four of several dozen molecules unique to the plant. Each is available in any medical marijuana, but their actions are disputed even among experts. Concentrations vary from strain to strain, and can be affected from one crop to another by any changes in nutrients or lighting.

Aside from the problems of controlling crop variability, the major drug in marijuana, THC, is not even created in the plant, but by the effects of heat. This

means that unless THC is activated from its precursor state (decarboxylation, the removal of the carboxyl group that transforms delta 9 THC acid to active THC), the actual potency of any sample remains dependent on how it is heated at the time it is used, either by smoking or cooking. This was the basis of the Cannabis Corporation patent that allowed the firm to create pure natural THC.

It is impossible, therefore, to know how much of which cannabinoid is actually being delivered to a patient unless the medical marijuana is pre-activated. Furthermore, since THC oxidizes easily, such activated marijuana requires airtight or inert gas packaging, something amateurs cannot easily do.

Finally, Canadian lawmakers decided the overriding effects of THC, which is universally accepted as the major active drug in marijuana, were important enough to stipulate a THC level. They require a potency of at least 10% in any "medical marijuana" which was licensed for sale to a patient. Unfortunately, there is no easy way to test marijuana for THC levels without dedicated lab equipment and trained technicians, and nobody can grow to exact numbers.

For all these reasons, as well as others, the production and delivery of medical marijuana remains riddled with loopholes, easily exploited, and expensive to control. As one state after another passes legislation mandating the availability of medical marijuana without necessary language to control and regulate it, new marijuana growing operations are being fostered haphazardly and proving nearly impossible to control or regulate effectively. This does not have to be the case.

In fact, any municipality can now easily gain control of medical marijuana by stipulating a standard of quality and consistency possible with available cultivation and processing systems that will guarantee the supply, potency, and consistency of medical marijuana to a precise degree. Such systems, built into an appropriate secured facility, can provide more than enough medical marijuana for any municipality. They can maintained by one or two part time technicians, and they can be designed and built today.

Steps in Producing Medical Marijuana

1. Cultivation

Anything aside from rigidly controlled hydroponic production leaves a grower open to multiple variables in soil and nutrition that will affect the growth and makeup of any cannabis plant. When it comes to medical cannabis, it is most important that each plant be grown in an isolated and controlled environment to minimize variation and provide an ongoing log of each production cycle.

During the last twenty years, advances in controlled hydroponic grow technology have resulted in the development of systems that can produce large amount of useful biomass in a small area. Furthermore, some of these systems are so designed to not only provide a complete regimen of nutrition, water, and light but also produce a complete record of every batch produced.

At this time, the best and most reliable automatic hydroponic unit suitable for this purpose is probably the current model of TerraSphere's automated hydroponic carousel. This patented growing system allows for precise control over every variable, and arranges the separate growing chambers in a carousel format to conserve space.

Using this form of cultivator, the actual area required for growing the medical marijuana could be quite limited, in all probability not exceeding an area 50 by 25 feet. Since the units contain their own light source, they may be grouped inside a suitably secure building and operate day and night according to the specific cycles programmed into the operating controls. These units are not only compact and automatic, they represent a cultivating system that is flexible, scaleable, and able to deliver a biomass with unprecedented levels of consistency and biostability.

2. Decarboxylation

One of the least understood facts about marijuana is that a number of compounds thought originally to be produced by the marijuana plant itself were actually being created by the heat of the smoking or cooking process. Hashish, it was discovered, is always heated in the process of manufacture in a traditional folk method of achieving this result.

The drug in marijuana, THC, is created when the plant-produced precursor, THC acid, is gently heated by the sun, creating active delta 9 THC. Normally, at the time of harvest, nearly 95% of all the potential THC in a sample is in the inactive acid precursor form. This means the THC is not even created until the user smokes or cooks the marijuana. There is no way to estimate how much potential THC in any sample can even be delivered unless it is fixed by this process.

Further complicating the matter, THC is a very active substance and oxidizes quickly when exposed to air. For this reason, the researchers at the government marijuana farm who first discovered these unique aspects of the cannabis plant used a nitrogen-atmosphere oven to heat the marijuana to the precise temperature to activate the THC but not oxidize this THC into its next stage, cannabinol.

This means even if reasonable biological stability can be reached with the isolated cultivation and harvesting technology described in the previous section, until medical marijuana is decarboxylated, the ratios of the various compounds still cannot be either fixed or assayed.

Fortunately, there are a number of firms, both domestic and foreign, that could adapt available large capacity autoclaves for this stage in the process. Several pounds of biomass at a time can be enclosed in large air-evacuated plastic "baggies" for the decarboxylation process, preventing degradation of natural THC during activation. Decarboxyation requires ninety minutes, but it is required to activate and fix the THC.

3. Supplementation

Perhaps the most crucial aspect of medical marijuana is being able to be certain the patient is getting a product meeting requirements for THC levels. Cloning and controlled hydroponics can create consistent medical marijuana, and decarboxylation can activate and fix the available cannabinoids, but since this is a botanical product there will be variations in any of the compounds making up the plant, including the THC itself.

This drawback can be corrected by batch analysis of each growing cycle, followed by a proprietary supplementation procedure. The FDA

ruled in 1985 that synthetic and natural THC are identical, and since pure synthetic THC is available in the form of **Marinol**, the purchase of pure pharmaceutical THC is now possible. The original Unimed company was purchased by the Belgian pharmaceutical giant Solvay. The pure synthetic THC produced by Norac Laboratories in Azusa, California. By now the "substance" THC-in-a-capsule is in CSA Schedule III, and readily available.

As THC itself has neither taste nor smell, the addition of minute amounts of synthetic THC after decarboxylation, depending on the batch analysis, would allow a municipality literally to "dial the potency" of their medical marijuana to an exact level without changing any other aspect of the plant. There would be no other difference, and the record of Norac THC, now twenty years in production, is excellent.

No proponent of medical marijuana, as against **Marinol** capsules, could say that organically grown herbal marijuana with just one molecule adjusted for consistency isn't marijuana. Still, by adding this one step, medical marijuana can be created that is stable, consistent, and dose-regulated to a very fine degree. No illicit marijuana could be grown or processed into medical marijuana with this degree of THC control.

4. Packaging and Analysis

Finally, the dried and processed marijuana must be packaged airtight or in inert gas to preclude oxidation, degradation or contamination of the active medical product. It is at this stage that a final batch analysis can be conducted so that even minute variations can be noted and recorded for further use. Luckily, many available forms of sealed packaging would be adequate and there are many firms to supply the simple and inexpensive machinery required.

Conclusion

There are two basic routes that a municipality can take when dealing with "supply side" questions with regards to the future of medical marijuana. They can farm it out to farmers and attempt to weed out the bad seeds, or they can prepare to grow their own.

A lack of historic attempts to create such a standardized or regulated marijuana, coupled with a lack of public or private firms or institutions with the expertise to design or operate such processing facility, has until recently made it

easier to simply ignore the subject and let the term "medical marijuana" remain without further definition. This is unwise. If state legislation includes language requiring medical marijuana to meet certain basic standards, it will be prepared to make illicit growing and distribution impossible once federal statutes relax.

It would seem that funds used to design and support a municipal facility to grow and process regulated, dose-quantified and consistent medical marijuana for local pharmacies would be very well spent. Such a facility could address and largely solve a number of problems inherent in any other system, and in the process create the basis for municipal control over medical marijuana.

A municipal facility is easy to envision. Two or three bays of hydroponic carousels could provide an ongoing supply of precisely cultivated marijuana, continually harvested, dried, and sealed in bags for decarboxylation. Batch analyzed, the activated dried leaves and tops would be supplemented, weighed, and packed using equipment not larger or more complex than appliances found in the average modern kitchen. The entire facility could be built into a fully secure structure located nearly anywhere in a municipality, from a remote area to a back section of the police department parking lot.

Costs are, surprisingly, not high. Ten-chamber automated carousels cost less than $25,000. Large autoclaves are not expensive, and are very low tech to maintain and operate. Even a generation/supplementation step is little more than a mixing procedure. In fact the entire facility could be leased.

The most persuasive aspect is that medical marijuana produced in this manner, with proper temperature and handling controls, will be in appearance, taste, and smell, superior to all but the most expensive $500 per ounce illicit marijuana. There will be no reason at all to go elsewhere. This entire scenario can be started off with inclusion in draft legislation of language that, simply by specifying consistency and potency standards, would create the framework and impetus to establish a new way, a better way, to meet the national challenge of medical marijuana.

Laurence O. McKinney

Laurence O. McKinney serves as Managing Partner of McKinney & Company, providing specialized services to diverse organizations with requirements for executive level assistance including profit and non-profit companies, educational institutions, and government agencies in the United States, Canada, Germany, The Philippines, India, and Nepal. Pioneering in the areas of substance abuse education, medical publishing, and pharmaceutical research and development, Mr. McKinney's leadership since 1971 in the study and application of methodologies for the practical cultivation, processing, regulation and control of pharmaceutical cannabis through legitimate business models is unique, allowing his firm to provide expert guidance and assistance in areas traditionally lacking in practical advice.

1978-Present **McKinney & Company** **Arlington, MA**

Past and present clients include Raytheon Corporation, BMW of America, SyBase, Harvard University, Harbridge House, Howard Johnson's Corporation, *New Age* Magazine, Houghton-Mifflin, Perdue Pharma Corp., Internet Solutions, Inc., Akaza Research, Intelligation, Inc., Dabur India Pvt. Ltd. (India), Ghorka Ayurved Inc. (Nepal)

Management Experience

1996-Present **First Website Company, LLC** **Arlington, MA**
President. Web design and content for small businesses/affinity sites. Website services, marketing. Sites include: **OilofTara.com, WebMindful.org.**

1990 -Present **Cambridge Pharmaceutical Laboratories** **Cambridge, MA**
President. Cannabis Corporation of America re-named, becoming the operating structure for small skin products firm. Serves as DBA for Tara skin care line, development for McKinney & Company's engineering and design projects.

1984-1990 **Cannabis Corporation of America** **Boston, MA**
President. Legalization of Marinol (THC) revives cannabis patent, assembled investor base (200 HBS classmates) established office, managed local/overseas research, interfaced with Perdue Pharma, Organix, FDA, DEA. Moving party, 1985-87 DEA rescheduling hearings, demonstrated marijuana production, control and extraction methodologies but product (natural THC) loses its sponsor.

1979-82 **First Watersign Corp. (dba Universal Organics)** **Cambridge, MA**
President. Manufacturing firm utilizing cannabis decarboxylation patent. Contributed to product design, raise investment, oversaw all production and national marketing. $175,000 first year sales; production halted in 1981.

1973-77 **Cannabis Institute of America, Inc.** **Cambridge, MA**
President. Established nonprofit educational institute group to assemble and maintain research library on cannabis, publish **Cannabis Rx, The Journal of Cannabis Research,** and oversee research leading to initial cannabis patents.

1970-76 **The Creative Learning Group** **Cambridge, MA**
Pioneering educational publishing firm in specializing in ecology, ESL, and substance abuse areas. Helped generate prospectus, raise funding, designed products, managed startup and negotiated DOD contracts. Customers included school systems nationwide, business clients, the U. S. Navy, and the U.S. Army (videocassettes). Sales to $540,000 in second year.

Education and Training

1967-69 **Harvard Business School** **Boston, MA**
MBA, 1969. Marketing, Technological Innovation, Strategic Planning. Thesis (with Raymond Godfrey) "The Underground Drug Trade as a Model of a Free-Market System". Currently section correspondent , served on the 25th, 30th, 35th Reunion Committees, nominee for Executive Board, Alumni Association.

1962-66 **Harvard College** **Cambridge, MA**
BA (Cum Laude) 1966. English and Psychology. Treasurer, *Harvard Art Review*, Publisher, *Quincy Drama Review,* lead guitar for rock band. Painted Hasty Pudding sets with Stockard Channing, watched Gov. Bill Weld dance in a chorus line, created, franchised a surfboard rental system for three summers.

Columns **Asia Business Journal** **Boston, MA**
"*Insights for Outsiders*" (collected at **WebMindful.org**) A series providing insights for doing business in Asia. *"The Star System"* for **ADEAST**, a New England advertising monthly.

Other Activities

1981-Present **American Institute for Mindfulness** **Cambridge, MA**
Director (1981-88), President, (1988-Present). Educational, charitable non-profit institute. Lectures, courses, concerts and activities relating to Western and South Asian humanitarian and cultural topics. Also served as *Field Ministry Supervisor* for Harvard Divinity School (1988-89). *Guest lecturer*, Emerson College, Tufts University. Website at **WebMindful.org.** Published **Neurotheology: Virtual Religion in the 21st Century.**

Awards **City of Birmingham, Alabama:** Key to the City, **Narcotic Enforcement Officers,** Certificate of Appreciation, Official advisor on Drug Matters, Gov. of Colombia (1980) **Harvard Entrepreneurs,** Honorary Lifetime Membership, **Arthur Young Services,** Entrepreneur of the Year Finalist **Writer's Magazine** Honorable Mention, First Book (1996) **Harvard Business School Alumni Association,** Exec. Board Nominee (2004)

Patents: *"Method and Apparatus for Treatment of Plant Materials"* Controlled decarboxylation for solvent extraction of pharmaceutical cannabinoids. Development partner: Perdue Pharma. Member, **ICRS,** The International Cannabis Research Society.

For D.M. Wed.

Haunani Olds

From: Patients Withouttime [patientswithouttime@gmail.com]
Sent: Monday, February 04, 2008 1:26 PM
To: Rep. Joe Bertram III
Subject: 2678 Ammended 2

Report Title:
Medical Marijuana; Secure Growing Facility

Description:
Authorizes the establishment of secure growing facilities for the production of medical marijuana for not more than fourteen qualified patients.

HOUSE OF REPRESENTATIVES
H.B. NO.
2678
TWENTY-FOURTH LEGISLATURE, 2008

STATE OF HAWAII

A BILL FOR AN ACT

RELATING TO MARIJUANA.

000176

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

SECTION 1. Chapter 329, Hawaii Revised Statutes, is amended by adding a new section to be appropriately designated and to read as follows:

"§329- Medical marijuana; secure growing facility. (a) Patients can develop and implement secure growing facilities on all islands for medical marijuana to provide a secure space for the growth of medical marijuana. Each secure growing facility shall grow not more plants than for 14 qualified patients or 98 plants.

(b) Qualifying patients can lease a plot within the secure growing facility for the cultivation of sufficient numbers of marijuana plants to provide a steady supply of medical marijuana for the patient.

(c) A facilitator may assist patients who have leased a plot in the secure growing facility in determining the strains of medical marijuana needed and designing a growing system to establish a stock of healthy plants to ensure the production of an adequate supply of usable medical marijuana to meet the patient's medical needs.

SECTION 2. Section 329-121, Hawaii Revised Statutes, is amended by:

1. Adding definitions for "facilitator", "plot", and "secure growing facility.":

"facilitator" means an organization or person knowledgeable in the propagation, growth, harvesting, and preparation for medicinal use of the various strains of marijuana that may be used by a qualified patient.

"Plot" means a section of planting ground in a secure growing facility that is large enough to grow not more than seven marijuana plants and is allocated for the growth of medical marijuana for a qualified patient.

"Secure growing facility" means a primary agricultural growing space available to qualified patients to grow medical marijuana that is secured by electric-eye technology, security cameras with a satellite uplink , motion detectors, security dogs, and two

fences."

2. Amending the definition of "qualifying patient" to read as follows:

""Qualifying patient" or "patient" means a person who has been diagnosed by a physician as having a debilitating medical condition."

SECTION 3. New statutory material is underscored.

SECTION 4. This Act shall take effect on July 1, 2008.

INTRODUCED BY:

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