

### Executive Summary

In September of 2013, California passed SB 566, the California Industrial Hemp Farming Act (CIHFA). The legislation removed state-level prohibitions on hemp cultivation, but would “not become operative unless authorized under federal law”.<sup>1</sup> Meanwhile, the Agricultural Act of 2014<sup>2</sup> (Farm Bill) signed into law in February contains a section<sup>3</sup> allowing for pilot programs through universities and state Departments of Agriculture to cultivate industrial hemp for research purposes. Partly because of the relatively vague wording of both the federal and state legislation, and partly because of the relatively vague wording of the Justice Department’s clarifications, it is now arguably legal to grow industrial hemp in at least thirteen states – according to Kentucky Attorney General John Conway, "absent any federal guidance to the contrary, [the Farm Bill] appears to exempt hemp pilot programs from the Controlled Substances Act, allowing the sale of hemp in Kentucky by those programs." (As cited in Patton, 2014)

Vote Hemp, the lobbying arm of the Hemp Industries Association, worked in concert with California State Senator Mark Leno’s office to draft SB 566, which sailed through the State Legislature with almost unanimous support and no credible opposition. (Office of CA State Sen. Mark Leno, 2013) Not only was this facilitated by an ever-growing close-to-critical mass of support for an end to industrial hemp prohibition nationwide, but it also bolstered that support through its victory. In the 2013 legislative

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<sup>1</sup> Cal. Industrial Hemp Farming Act, Cal. Food and Agriculture Code § 81010

<sup>2</sup> ([H.R. 2642](#); [Pub.L. 113–79](#))

<sup>3</sup> Colorado Constitution article XVIII § 16

session alone, twenty states introduced some form of hemp legislation – some for the first time, some for the fifth time<sup>4</sup>. In 2012 both Washington and Colorado passed legislation legalizing marijuana for adult recreational use. Washington’s legislation<sup>5</sup> called for studies into regulating industrial hemp as well, while Colorado’s legislation<sup>6</sup> set up a regulatory framework for hemp cultivation.

The movement to end hemp prohibition was more successful in 2013 than it has ever been. A growing number of states are passing hemp cultivation regulations; there is a growing awareness of the differences between hemp and psychoactive marijuana, as well as a growing awareness of hemp’s current utility and especially its potential utility; the rise of the sustainability movement is pushing consumers, producers and growers to find crops, methods and products with smaller carbon footprints; and the venture capital community is abuzz over recent discoveries in potential new applications of hemp, such as fire-resistant building materials, biofuel, and the next generation of super-capacitors. Hence the success of SB 566 - and as California goes, so goes the nation.<sup>7</sup>

The Justice Department’s response to these laws has been interpreted to mean that as long as states have robust marijuana regulations, the federal government won’t see a need to take action to enforce federal marijuana laws – the enforcement of which has been left up to the states in the past anyway. Considering the federal government

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<sup>4</sup> A full and up-to-date accounting of the current legislative state of hemp in the states can be found on Vote Hemp’s website at <http://votehemp.com/legislation.html>

<sup>5</sup> Access Washington, Revised Code of Wa. Title 69 § 50

<sup>6</sup> Colorado Constitution article XVIII § 16

<sup>7</sup> The sociopolitical aphorism “As California goes, so goes the nation” is most accurately attributed to columnist Westbrook Pegler.

fails to distinguish between marijuana and hemp, this would mean states with sturdy hemp legislation like SB 566 can now legally cultivate hemp.

Even though the Farm Bill only allowed for cultivation of hemp by research institutions for research purposes, it did not place any restrictions on what farmers could do with the hemp once it has been cultivated (Patton, 2014). The Controlled Substances Act (CSA) only restricts hemp cultivation, not hemp trafficking. Thus, farmers in some pilot programs will be able to sell for commercial purposes much, perhaps even all of the hemp they grow for research purposes, and thus for all practical purposes commercial hemp cultivation has returned to America.

## Background

Industrial hemp is among the more versatile materials on the planet. However, the federal government considers hemp to be no different from its illegal, psychoactive cousin marijuana, and thus forbids the cultivation of hemp in America.

“The term "marihuana" means all parts of the plant *Cannabis sativa* L., whether growing or not; the seeds thereof; the resin extracted from any part of such plant; and every compound, manufacture, salt, derivative, mixture, or preparation of such plant, its seeds or resin. Such term does not include the mature stalks of such plant, fiber produced from such stalks, oil or cake made from the seeds of such plant, any other compound, manufacture, salt, derivative, mixture, or preparation of such mature stalks (except the resin extracted therefrom), fiber, oil, or cake, or the sterilized seed of such plant which is incapable of germination.” – *Controlled Substances Act 21 U.S.C. §802(16)*

We can process hemp and manufacture hemp and produce hemp, we just cannot grow hemp. Or at least, we could not. Some, including Kentucky Atty. Gen. John Conway, now argue that we can (Patton, 2014), although this depends on how each state chooses to interpret its own legislation. But historical precedent tells us that if humans can grow hemp, we will.

Humankind’s existence has been closely intertwined with hemp for long enough that scientists believe our two species have actually exchanged DNA. According to Dr. William Courtney, broad host viruses “transduct plasmid host DNA between plants, animals and bacteria, accounting for the lateral co-evolution of Endo/Exogenous

Cannabinoids.<sup>8</sup>” (Courtney, 2010) There are receptors in the human brain known as endogenous cannabinoid receptors, so-called because they only seem to react with a group of chemicals found in cannabis, including THC (tetrahydrocannabinol) and CBD (cannabidiol), known as exogenous cannabinoids because they are created outside the human body. This is more than a trivial factoid: it undergirds the notion that hemp has held great utility for humanity for quite some time, to the point where our bodies have adapted methods of interacting with that specific plant.

Due to its variety of applications, hemp’s value at any given point has an extreme “own-price elasticity” (Thompson, Berger, & Allen, 1998, p. 28) such that as it becomes more widely grown and its value falls, the speed of that fall is arrested by greater utilization. In other words, as soon as the price falls enough for hemp to become more cost-effective for more applications<sup>9</sup>, demand begins to rise once again, as does its value. The implication is that there is greater security for farmers in growing hemp. Even if it becomes as ubiquitous as crops like corn or wheat, any drop in value is counter-balanced by an accompanying rise in demand due to a greater cost-effectiveness which itself depends on not causally driving the value of hemp back up to where it was. Thus wider adoption of hemp farming still leads to a decrease in the value of the crop, but much more gradually so. To put it simply, hemp begets hemp.

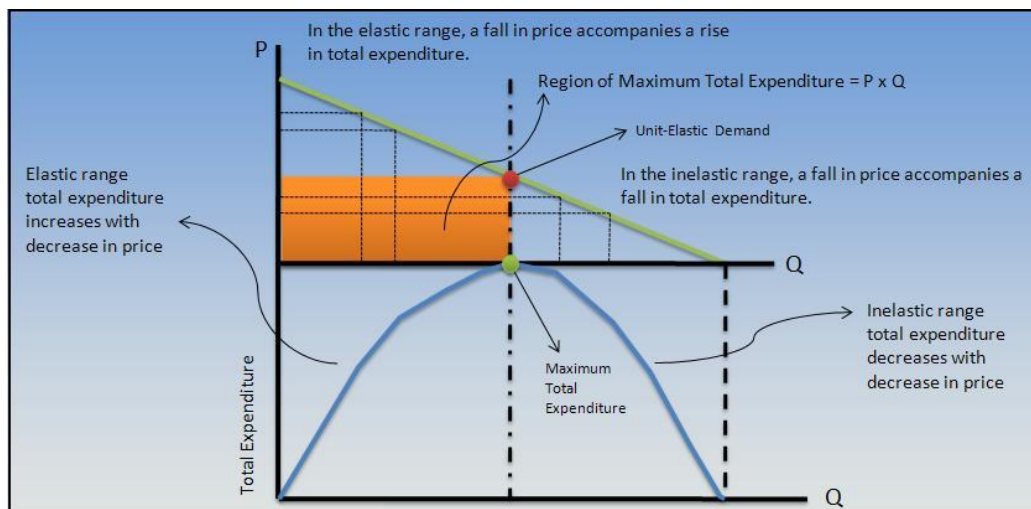
A renewed interest in hemp is resulting in novel research, which in turn is revealing entirely new applications for hemp which in turn could have enormous

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<sup>8</sup> The transfer occurs via little loops of DNA called plasmids that bacteria can transfer between plants and humans through such exchanges as human ingestion of the plant

<sup>9</sup> Provided that people are aware of these new applications

impacts on many aspects of our lives. For example, hemp building materials last longer than conventional concrete and drywall, while offering superior heat and sound insulation and absorbing more moisture – which, combined with its anti-microbial properties, makes for a healthier breathing environment. (Hedenqvist, 2009; Nissen, 2010) Hemp is a phytoremediator, meaning it can actually decontaminate soil poisoned by heavy metals and toxic chemicals, even to the point of removing radioactivity. (Aina, 2004; Arru, 2004; Campbell, 2002; Citterio, 2003; Linger, 2002; Loser, 2002; Meers, 2005) Hemp fibers can be used to strengthen gluten-based plastics, which would allow for non-toxic, biodegradable plastic (Thompson, Berger & Allen, 1998). An Austrian company is making shipping pallets from hemp resin which can be composted (Govt. of New South Wales, 2011). According to the National Wooden Pallet & Container Foundation, shipping pallets comprise approx. 40% of lumber operations worldwide and 44% of the U.S. hardwood harvest. There are more than 1.2 billion pallets in service in the United States each day. (Scholnick, 2009).



**Figure 1:** Because of hemp's high own-price elasticity, when its price drops, it becomes cost-effective for more uses, increasing demand, and thus overall expenditure on hemp rises. In other words, the cheaper it is, the more people buy. (*Simplilearn.com*)

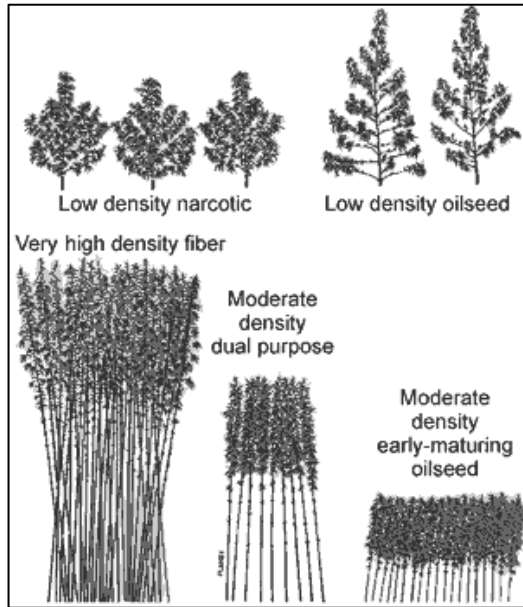
Industrial hemp has the potential to reduce American dependence on foreign oil in particular, and petroleum in general, through biodiesel fuel, cellulosic ethanol, biomass feedstock, and hurd gasification (Li, 2010; Prade, 2012). When used in building materials such as concrete, hemp provides superior strength and insulation, which also brings inherent energy savings (Awwad, 2011; ). Hemp drywall and insulation are more fire-retardant and absorbent than conventional materials (Small & Marcus, 2002). As an additive to strengthen gluten-based composites, hemp can be used to make plastic which, unlike its petroleum-based predecessor, is biodegradable (Hedenqvist, 2009). Recent discoveries involving hemp-based carbon nano-sheets have major implications for the future of electronics (Bourzac, 2013; Mitlin, 2013). In a few years' time people might even use hemp to make condoms (Anthony, 2013). Meanwhile, the sustainability movement in America has grown more powerful, just as the organic movement has become more widespread, leading to a greater demand for crops and products like hemp that are more inherently sustainable (Bardelline, 2010; Hotakainen, 2013).

Hemp is also being acknowledged as a prime source of energy, with one of the best well-to-wheel ratios<sup>10</sup> of any of the so-called 'energy crops' (Prade, Svensson & Mattson, 2012). Cellulosic ethanol derived from hemp contains more net energy and releases significantly fewer greenhouse gases into the atmosphere than ethanol derived from corn, while requiring less water and little to no herbicides or pesticides (Biello, 2008). Finally, hemp-based carbon nanosheets could transform the way we use electricity and store energy (Mitlin, 2013) (Bourzac, 2013).

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<sup>10</sup> The form of life-cycle analysis used to evaluate transport fuels and vehicles, examining the ratio of carbon consumed versus carbon expended in the production and combustion of the fuel.

Law enforcement groups routinely express concern that even if hemp is completely harmless, its physical resemblance to marijuana would pose great difficulties



**Figure 2: Typical architecture of categories of cultivated *Cannabis sativa*. Small & Marcus 2002**

for law enforcement, as evidenced in letters in opposition to California hemp legislation<sup>11</sup>. In fact, as you can see from Figure 3, most hemp growths look nothing like illicit marijuana growths (Patton, 2013; Kosolov, 2009; Small & Marcus, 2002).

In the past, fallacious arguments against industrial hemp cultivation were employed to unsettle policy-makers, but new

research and technology is alleviating such concerns. Dr. George Weiblen of the

University of Minnesota has demonstrated that in fact hemp and marijuana are genetically distinct (Weiblen G. a., 2006). Not only that, but Dr. Weiblen has developed what is essentially a technique for cannabis DNA fingerprinting, which employs methods that could be replicated in any forensics lab and is already being utilized by state and federal law enforcement agencies (Weiblen G. , 2013).

A sort of grand conjunction of legislative changes, greater awareness, greater demand and more effective lobbying occurred in 2013, leading to the accumulation of the sorts of political, social and economic energies necessary and sufficient to effect real

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<sup>11</sup> See Appendices C, D



change. That change is evident in the success of the California Industrial Hemp Farming Act, the progress on the federal Industrial Hemp Farming Act and the industrial hemp amendment to the Farm Bill.

At the same time, states have passed laws legalizing the sale of psychoactive marijuana, ostensibly the cause of hemp's relegation to illegality in the first place. Most importantly, the pro-hemp movement is dramatically more effective now that there is a sharp disambiguation between industrial hemp cultivation and the effort to legalize marijuana (Grim, 2013).

### **Primary Assertions**

Although California state law has dismantled prohibitions on hemp cultivation, it has only done so in cases where federal law allows for it. But while federal law allows farmers to grow hemp for research purposes, it does not disallow them from selling it for commercial purposes. Therefore, for practical purposes it is now legal to cultivate industrial hemp in America – or at least in states like Kentucky, Colorado and California. Provided a farmer works with the state Dept. of Agriculture and an established research institution, that farmer can grow industrial hemp for research purposes. It is not unreasonable to suspect this research will turn up yet more novel applications for hemp, and certainly increase awareness of its current merits as a commodity.

A greater appreciation for hemp in conjunction with a worldwide focus on sustainability, a struggling economy, and a more fertile legislative environment suggests that a strong commercial market is at least possible. Indeed, the domestic market for hemp products was more than \$581 million in 2013 (Hemp Industries Association, 2014). Thus, provided a farmer harvests hemp for a legitimate research purpose, that farmer ought to be able to sell at least part of that hemp commercially. Markets for hemp already exist and will likely increase as hemp cultivation is more widely adopted and a domestic supply is developed. Thus, even though hemp cultivation is limited, commercial cultivation is viable, and thus we are finally in a position to begin developing a domestic hemp industry.

For the first time, a definition of industrial hemp has been enshrined in federal law, differentiating it from marijuana and controlled substances<sup>12</sup>. California's hemp proponents struggled for years to even get a hemp bill through the legislature, and succeeded more than once, only to see their hard work succumb to multiple gubernatorial vetoes. Earlier in 2013 Sen. Ron Wyden of Oregon called out hemp lobbyists after legislation to regulate hemp cultivation failed in his state, blaming them for conflating hemp with marijuana (Grim, 2013). But by the year's end, Vote Hemp was able to learn from this quickly enough to facilitate two major victories – the passage of SB 566 and a successful high-profile lobbying effort on Capitol Hill in support of federal hemp legislation, which led to the inclusion of a section in the farm bill allowing for hemp cultivation.

It seems we have reached some sort of critical mass of support for an end to industrial hemp prohibition. Responsible factors include the ever-increasing number of states passing hemp cultivation regulations; a growing awareness of the differences between hemp and marijuana; the rise of the organic movement; the rise of the sustainability movement; and recent developments in potential applications of hemp, such as building materials, biofuels, plastics and superconductors. Each of these factors plays out in state and federal hemp politics - and not necessarily the same way in each. Together they have enabled the formation of something greater - a gestalt, greater than the sum of its parts; the force needed to effect change.

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<sup>12</sup> “The term ‘industrial hemp’ means the plant *Cannabis sativa* L. and any part of such plant, whether growing or not, with a delta-9 tetrahydrocannabinol concentration of not more than 0.3 percent on a dry weight basis.” Farm Bill sec 7606 (b) (2)

Another measure of public support for hemp cultivation is the lack of credible opposition. In California, by the time SB 566 had its first hearing before a committee in the State Legislature, it had received more than thirty letters of support and only one letter of opposition (Rules Committee, Cal. State Senate, 2013). It was a joint letter from both the California Narcotics Officers Association and the California Police Chiefs Association, and written by John Lovell, a lobbyist and legal consultant to many CA law enforcement groups. It was the same letter the same organizations had submitted two years prior, in opposition to similar legislation; the letter – purported to be written in 2013 - asserted that 2005 was the last year for which figures were available for European hemp cultivation acreage; it cited as the foremost expert on hemp economics an academic who left academia ten years ago<sup>13</sup>; but what really scuttled the opposition was that its concerns were all refuted by one particularly strong letter of support from one particularly strong supporter – the California State Sheriffs Association. By the time the bill was on the governor’s desk the one solitary letter of opposition had been withdrawn; apparently the Sheriffs were able to quell the concerns of their deputies.

While the sustainability movement is gaining steam and has shown, along with the organic movement, that people are willing to pay more to support their values, the sentiment does not sustain political clout, as evidenced by the failure of recent efforts in California and Washington to mandate the identification of genetically-modified foods on the packaging. However, that does not change the fact that businesses which thrive

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<sup>13</sup> V. Vantreese-Askren, personal communication, April 4 2013 (Appendix A)

on hemp, such as Nutiva and Dr. Bronner's Magic Soaps, now have much greater resources with which to support the hemp lobby (Harkinson, 2013).

Just as hemp's various sustainable applications can only be appreciated once there is a greater level of awareness, its most cutting-edge technological applications such as biodegradable plastics (Hedenqvist, 2009), biofuels and super-capacitor electrodes, while among its most exciting possibilities, by virtue of their own novelty are also among its least-known potential applications, and thus cannot be relied upon to generate any serious call for change. In case of hemp tech, people will believe it when they see it. Still, the mere potential is enough to draw the attention of industries like clean energy and green tech, which serves to further the resources of the pro-hemp movement. Even Ford Motor Company has expressed an interest in working with farmers who are participating in the pilot programs<sup>14</sup>.

In October, Gallup reported that 58% of Americans supported the legalization of marijuana (Newport, 2013), a sentiment shared by 65% of Californians (Tulchin Research, 2013). Those are Americans who think we should legalize not just hemp, but all marijuana. More states have passed or at least introduced hemp legislation than have not. Hemp has already been harvested in Colorado (Zak, 2013), and growers in Kentucky and California are getting ready to plant in 2014 (Asch, 2013) (Lammers, 2014). As far as the states are concerned, they are ready for hemp and waiting on the federal government. But if such widespread support hasn't been enough to legalize marijuana, then widespread support to legalize hemp cannot be expected to meet with

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<sup>14</sup> C. Majeske, personal communication, March 25 2014 (Appendix B)

any more success – especially when the federal government has not historically distinguished between hemp and marijuana.

### Discussion

In 2011, Gov. Brown refused to sign SB 676, the previous effort at a California hemp cultivation bill. His reasoning was succinct:

“Federal law clearly establishes that all cannabis plants, including industrial hemp, are marijuana, which is a federally regulated controlled substance. Failure to obtain a permit from the U.S. Drug Enforcement Administration prior to growing such plants will subject a California farmer to federal prosecution.

Although I am not signing this measure, I do support a change in federal law. Products made from hemp - clothes, food, and bath products - are legally sold in California every day. **It is absurd that hemp is being imported into the state, but our farmers cannot grow it.**<sup>15</sup> (*emphasis added*)

Vote Hemp director Patrick Goggin worked with Sen. Mark Leno’s office to draft new legislation that could deal with the obstacle of federal supremacy. Rather than continue to beat against the door, they looked for another way in. Modeled after similar legislation that had proved successful in Kentucky, the new legislation would only become operative when authorized under federal law. It does not legalize hemp cultivation per se, it just sets up a legal framework by which once federal restrictions are removed California will be able to start immediately, rather than having to go through the process of dismantling state-level hemp prohibitions after the fact.

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<sup>15</sup> Governor Brown’s full veto message is available online at [http://www.votehemp.com/PDF/SB\\_676\\_Veto\\_Message.pdf](http://www.votehemp.com/PDF/SB_676_Veto_Message.pdf)

Little encouragement was needed to pass SB 566 through the California state legislature. It had a respected Republican co-sponsor from conservative bastion Orange County<sup>16</sup>, it received almost unanimous support in both the House and the Senate, and the only issue became the matter of how many letters of support we could manage to collect. There was low-hanging fruit in the lists of supporters of prior hemp legislation in California, along with Vote Hemp/Hemp Industries Association's California membership rolls. Most prior supporters agreed to sign on again, though some expressed frustration with the failures of the past. At that point, in the spring of 2013, Sen. Rand Paul (KY) had already introduced an Industrial Hemp Farming Act in the U.S. Senate (Office of Sen. Rand Paul, 2013), the first time there had been a companion bill to industrial hemp legislation regularly passed in the House. As such, there was reason to be cautiously optimistic about the possibility of federal action on hemp in the near future.

Even as recently as ten or fifteen years ago, hemp cultivation was nothing more than “the focus of official interest” (USDA, 2000) – and only a handful of states were interested. Kentucky established a Hemp and Related Fiber Crops Task Force in 1994. Vermont, Hawaii, and North Dakota were the only states to have authorized agronomic and economic feasibility studies, and only three states<sup>17</sup> had already published hemp feasibility study results. (Ehrensing, 1998; Kraenzel et al, 1998; McNulty, 1995; Thompson et al, 1998) In 1999, nine states<sup>18</sup> passed legislation concerning the research, study, or production of industrial hemp as a crop (Nelson, 1999) The first test plots of

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<sup>16</sup> State Rep. Allan Mansoor, Costa Mesa

<sup>17</sup> Kentucky, Oregon, and North Dakota

<sup>18</sup> Arkansas, California, Hawaii, Illinois, Minnesota, Montana, New Mexico, North Dakota, and Virginia



industrial hemp in the United States were planted in Hawaii in December 1999 . To gain DEA approval of the project, the scientists had to foot the bill for a twelve-foot high security fence, infrared surveillance cameras and even security patrols. After four short years the program shut down due to lack of funding (Borreca, 2003).

In 2012, Washington and Colorado became the first two states to decriminalize and fully legalize marijuana for adult recreational use. In the year since those election results, there has been a flurry of discussion and legislation (Hotakainen, 2013). Despite uncertainty as to the federal government's response, at least ten plucky farmers, including Ryan Loflin in Colorado, decided to go ahead and grow some hemp in 2013 (Zak, 2013). Luckily for Loflin, in August, a good two months before the harvest (Associated Press, 2013), the Department of Justice provided some much-needed clarification. It released a guidance memorandum in which Dep. Atty. Gen. James Cole explained that traditionally, the government had relied on state and local authority to deal with narcotics matters, addressing eight key priorities.

“Indeed, a robust system may affirmatively address those priorities ... In those circumstances, consistent with the traditional allocation of federal-state efforts in this area, enforcement of state law by state and local law enforcement and regulatory bodies should remain the primary means of addressing marijuana-related activity.” (Cole, 2013)

Those priorities were:

- Preventing the distribution of marijuana to minors;
- Preventing revenue from the sale of marijuana from going to criminal

- enterprises, gangs and cartels;
- Preventing the diversion of marijuana from states where it is legal under state law in some form to other states;
  - Preventing state-authorized marijuana activity from being used as a cover or pretext for the trafficking of other illegal drugs or other illegal activity;
  - Preventing violence and the use of firearms in the cultivation and distribution of marijuana;
  - Preventing drugged driving and the exacerbation of other adverse public health consequences associated with marijuana use;
  - Preventing the growing of marijuana on public lands and the attendant public safety and environmental dangers posed by marijuana production on public lands;
  - Preventing marijuana possession or use on federal property

In other words, as long as a state can handle those responsibilities itself, federal government will find intervention “less necessary”.

Initially after the memo was released, there was hesitancy in the hemp movement (Hopkins, 2011), as the memo referred specifically to marijuana legalization, not hemp cultivation. But therein lies the key: the government’s legal definition of marijuana does not distinguish between industrial hemp and psychoactive varieties of marijuana. For decades, this has been the bane of the hemp movement – being saddled with all the

stigmas and illegalities associated with “The Devil’s Weed”<sup>19</sup>. This failure of disambiguation now serves to bolster the cause of hemp proponents, at least in those states which have passed sturdy regulatory legislation such as SB 566.

In a letter of clarification to Oregon Rep. Earl Blumenauer, who had inquired as to the application of the Cole memo to industrial hemp in regards to his own state’s hemp regulations, US Attorney S. Amanda Marshall confirmed that “[s]ince ‘industrial hemp’ is marijuana, under the [Controlled Substances Act] these eight enforcement priorities apply to hemp just as they do to all forms of cannabis.” She described the federal government’s approach using such quintessentially Reaganesque idioms as “trust but verify”<sup>20</sup>.

“In other words, as long as the state follows through in imposing strict controls regulating marijuana-related conduct, it is less likely that any of the Department’s eight enforcement priorities will be threatened and federal action will be less necessary.” (as cited in Crombie, 2013)

While a reduced likelihood of enforcement is encouraging to farmers, federal action that is “less necessary” still sounds like it could be *slightly* necessary, a possibility that is still too great for some farmers and those interested in capitalizing on a hemp industry.

What a difference a decade makes. To say that things have changed would be an understatement. According to Vote Hemp’s website,

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<sup>19</sup> 1936 Anti-marijuana propaganda film, available at <https://www.youtube.com/watch?v=7YBk4JW7bSc>

<sup>20</sup> “Trust but verify” was popularized by drug warrior Ronald Reagan in reference to working with the Soviet Union. Reagan is also the President who officially declared a national “War on Drugs” in 1982, though Richard Nixon first uttered those words in 1971.

“So far in the 2014 legislative season industrial hemp legislation has been introduced or carried over in Puerto Rico and twenty-three states: Alabama, Arizona, Connecticut, Hawaii, Illinois (carried over from 2013), Indiana, Kentucky, Maryland, Minnesota, Mississippi, Missouri, Nebraska, New Hampshire (carried over from 2013), New Jersey (carried over from 2013) and new bill introduction as well, New York, Oklahoma, South Carolina, South Dakota, Tennessee, Utah, Washington (two bills were carried over from 2013), West Virginia, and Wisconsin. The New Jersey bills from 2013 were passed in January of 2014, but were pocket vetoed by Governor [Chris] Christie.” (Vote Hemp, 2014)

Here in California, the removal of state-level prohibitions on hemp cultivation came only after years of trial and error. One particularly confounding aspect to hemp legalization in California has been medical marijuana advocacy. Some medical marijuana advocates see the legalization of industrial hemp as a half-measure or a compromise of principles. Only in California could legislation to legalize industrial hemp be publicly opposed by the late Jack Herer, the so-called “godfather” of the hemp revolution (The 420 Times, 2013). His concern, as voiced in a letter to then-Governor Arnold Schwarzenegger, was that industrial hemp fields will wreak havoc on medical marijuana crops by cross-pollinating with the psychoactive plants and ruining their potency<sup>21</sup>. Meanwhile, some critics see hemp as a gimmick designed to encourage the legalization of marijuana. It is not. In fact medical marijuana farmers lobby against

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<sup>21</sup> Appendix E

industrial hemp for fear that its pollen could destroy the efficacy of their medical crops (Johnson, 2012). If anything, marijuana was criminalized with the goal in mind of bringing about de-facto hemp prohibition – or at least that is the theory long espoused by Herer and his devotees (Herer, 1985).

The Cole memo was a game-changer. It demonstrated a paradigm shift in the Justice Department's position on hemp. Ever since Colorado and Washington had legalized recreational marijuana use, the public had held its breath to see how the federal government would react (Hall, 2013; Hopkins, 2011). California and Oregon had recently been jarred by raids on dispensaries and seizures of medical marijuana even though President Obama had arguably promised a more hands-off approach (Sullum, 2011); would the government handle these new states in a similarly haphazard fashion? The answer turned out to be no. Instead, the DOJ said it would not see a need to interfere with an individual state's marijuana laws, provided those laws are managed responsibly and in a way that does not interfere with other states. As the government does not distinguish between industrial hemp and marijuana, any rules they apply to medical marijuana must, by their own definition, apply to hemp as well.

Rather than move forward before a federal distinction between hemp and marijuana is established under the Controlled Substances Act, Vote Hemp is waiting to declare victory until it can seek opinions from individual states and attorneys generals about their interpretation of the law. The concern is to avoid giving farmers a false sense of security, as Kentucky's attorney general Jack Conway claimed was happening in his state. (Hall, 2013; Lammers, 2014) If farmers erroneously believe they can grow hemp legally, they run the risk of having their entire crop destroyed, which could be ruinous.

However, since the passage of the farm bill, Conway's office has started working together with Commissioner Comer to help farmers enroll in pilot hemp programs. (Patton, 2014) Still, this serves as an example of the damage U.S. regulations have done to the hemp market, both nationally and internationally.

For proof that US regulations depress the hemp market, look no further than Hanes. Starting in 2008, Hanes worked for years with Naturally Advanced Technologies (NAT) on a technique using a wash developed by the National Research Council of Canada to treat hemp fibers in a way that rendered them able to be processed with existing cotton equipment. Hanes was able to develop clothing with a blend of 80% cotton and 20% hemp that had 50% less shrinkage along with increased strength and moisture wicking. They went so far as to purchase 10,000 lbs. for further testing.

In March of 2010 Hanes inked a 10-year contract with NAT. Although the CRAiLAR fabric was more expensive than cotton at the time, "the Hanes brands tests showed that the material's shrink-resistance and dye-retention properties would reduce manufacturing costs to a point that would even out the higher initial cost of Crailar." (Bardelline, 2010) Not one month later, Hanes was singing a different tune. Another release went out announcing another 10-year deal between Hanes and NAT – but something had changed. This time the announcement heralded NAT's "commercialization" of flax fibers, not hemp. The only reference to hemp in a *Wall Street Journal* article on the development did not even reference the initial deal, though it does offer an insight into why hemp's superior shrink-resistance, moisture wicking, dye retention and strength were not strong enough for Hanes.

“Until last year, NAT had focused on developing hemp, but it switched to flax when it found it could process that fiber twice as efficiently. Hemp also has other drawbacks: It's derived from the marijuana-producing cannabis plant, which can't be grown in the U.S., and it may be difficult to sell to mainstream consumers.

That was a concern for Hanes. ‘We were having a heck of a time with the hemp, thinking, 'How are we going to market this?' said Hanes's Mr. Hall.” (Dodes, 2011)

In other words, despite hemp’s otherwise superior qualities outweighing its greater cost, US regulatory pressure alone was enough to scuttle the hemp CRAiLAR deal. Anna Owen, one of the coordinators of Hemp History Week, recently provided a succinct demonstration of how Canadian commerce is also impacted by our outdated laws. Her research demonstrated the impact of hemp farming prohibition in the U.S. in an interview with a leading hemp food processing and product manufacturing company looking to one day have acreage in the U.S.:

“In Manitoba, companies expressed support for the U.S. to end hemp-farming prohibition. For example, a representative from Company “B” stated, “we can’t wait to plant our first hemp field in the U.S.” (R9). Some view the prospect of U.S. hemp farming as an opportunity to grow the hemp industry. Having U.S. farmland available for hemp would also buffer climatic challenges in Manitoba such as flooding. Moreover, some Canadian hemp food companies are well positioned due to their ownership of hemp knowledge from seed to manufacturing.” (Owen, 2012)

It seems farmers in Canada have expressed interest; if the interest is there, that means they would be doing more business if they could; thus there would be a greater level of commerce if the US relaxed its hemp restrictions.

In Tasmania farmers face similar frustrations. Phil Reader, president of Tasmania's Industrial Hemp Association, is at the vanguard of an effort to legalize hemp grain for human consumption in Australia. It was legalized in Tasmania years ago, but Australian restrictions depress the market (Tasmanian Farmers and Graziers Association, 2012). Australian police are concerned that hemp might impact their unique roadside THC test - "It's only divisive through the ignorance of Federal politicians and bureaucrats not wanting to change anything," Reader told Australia's *Farm Weekly* (Vallely, 2013). As long as hemp is illegal to grow for human consumption in Australia, Tasmanian farmers are at a loss.

A domestic hemp industry would eliminate some of the uncertainty in the international hemp market, not to mention demonstrate hemp's commercial and political viability. As such, it is only a matter of time before Australia's hemp food ban goes the way of the dodo. That's assuming public opinion is in line with an article for the Australian Broadcasting Corporation's Rural section in which Rosemary Grant boldly asserts, "It's arguable the hemp plant has more uses than any other species under broadacre cultivation today." (Grant, 2014)

In November of 2013 a representative of Whole Foods addressed a crowd of people assembled in the Phoenix Hotel in Washington D.C. for the annual Hemp Industries Association conference and lobby day. He wanted to emphasize how



important the hemp market already was to Whole Foods, which carries over 90 brands that use hemp ingredients and over 400 hemp products. The market was growing at a rate of 25%, he said, faster than their growth in GMO-free foods and faster even than their organic market. Hemp is ready-made for the organic market. Hemp grows fast. Hemp does not poison the earth. Hemp rejuvenates the soil. It is biodegradable; compostable; non-toxic; anti-microbial – which, combined with its toughness, makes hemp an ideal material for reusable diapers. There is plenty of hemp being sold already in the United States. The domestic market is there, but with no domestic product.

There is plenty of hemp being sold *to* the United States. We still have to import industrial hemp, augmenting the cost in a way that masks potential market demand. The problem is, corporations tend to be fiscally conservative, avoiding risk, and as long as industrial hemp is considered no different from marijuana, it is too risky to invest in. Manufacturers who might prefer to use hemp are dissuaded by both the cost of importing the hemp as well as the legal status of marijuana. For example, at the 2012 San Francisco Green Fest, Ford Motor Company had a display touting their use of Natural Fiber Reinforced Plastics:

“Natural fibers such as wheat straw, hemp, coconut coir, and cellulose are used in place of glass fibers for plastic reinforcement.”



**Figure 3: Ford sustainability display material at San Francisco Green Fest 2012.**  
 Note the language on the sign - "...wheat straw, hemp, coconut coir..."

Yet when contacted on behalf of HIA to ask for a sample hemp component for lobbying purposes, Ford's Global Sustainability Integration department denied that Ford used any hemp components.<sup>22</sup> Green Fest sign aside, Ford's own sustainability reports have touted for years that "almost 300 parts used across Ford's European vehicles are derived from sources such as cotton, wood, flax, hemp, jute and natural rubber" (Ford Motor Company, 2012; Ford Motor Company, 2013). When asked about this discrepancy in October of 2013, Ford explained that their American production line did not incorporate hemp products.<sup>23</sup>

A week later, at the 2013 Green Fest in San Francisco, although once again Ford was a primary sponsor, and once again showcased their sustainable practices, this time there was no mention of hemp whatsoever [Figure 3]. Perhaps they were worried about being attacked for misleading the sustainability movement. It remains unclear as to whether Ford in fact uses hemp in its domestic models, and it probably does not. Why

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<sup>22</sup> C. Majeske, personal communication, October 25 2013

<sup>23</sup> Ibid., October 29 2013

would they? It is not legal to cultivate hemp domestically, and thus hemp components are prohibitively expensive over here. Either that or someone at Ford is concerned about the possibility of a lawsuit if, once it is revealed their door panels contain hemp-based fiberglass, some sullen adolescent causes a tragedy when he tries to smoke his father's Focus and burns the family house down.

One cannot blame Ford for trying to look after its image as a corporate citizen; responsibility, or at least the appearance thereof, is all the rage in corporate America. According to accounting firm KPMG's 2011 International Corporate Responsibility Reporting Survey<sup>24</sup>, 83% of U.S. companies reported on their corporate social responsibility (CSR) initiatives that year – up from 74% in 2008. In Britain the increase was from 91% to 100%. What was once a publicity stunt has become a “de facto law” for businesses – includes the federal government, the single largest energy consumer in the country, comprising approximately 1.5% of the nation's annual energy consumption in 2010 (Broder, 2010).

In 2009 President Obama signed Executive Order 13514<sup>25</sup>, which required agencies to monitor their greenhouse gas emissions. In addition, regulatory agencies that have been traditionally derided as toothless, such as the Environmental Protection Agency, the Federal Trade Commission, and the Securities and Exchange Commission, have begun taking more dramatic steps in recent years, tightening up requirements for financial disclosures, environmental reports and supply chain transparency. The EPA

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<sup>24</sup> Report available at <http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/corporate-responsibility/Pages/default.aspx>

<sup>25</sup> “Federal Leadership in Environmental, Energy and Economic Performance”, Oct. 5 2009

has made greenhouse gas reporting mandatory for any facility releasing more than 25,000 metric tons of GHGs (greenhouse gases) per year (Environmental Protection Agency, 2013). That data is all accessible from a website where anyone can log in to see what facilities are pumping gas into their local atmosphere, and how much they are pumping. And thus we can look forward to a greater push towards sustainability for a very simple reason: shame.

The more some companies alter their operations to become more transparent and more sustainable, other companies will feel pressure to do the same. The phenomenon exists in the increasing number of companies publishing corporate responsibility reports as the years go by, as evidenced in the aforementioned KPMG survey. Recreator, a clothing manufacturer that uses hemp in its t-shirts, is an example of this new mind-set. Whereas now they import the hemp they use in their shirts, they would rather use locally grown hemp. They want a completely transparent supply chain, which demands domestic cultivation. As such, Recreator has plans to work with a hemp growers' co-operative to develop a model hemp processing plant. In addition to providing them with a cheaper, local, higher-quality source of hemp, it will also allow them to be involved in the development of the fabric they use from seed to loom. To illustrate the amount of interest in Recreator and its ideology; it just successfully completed a crowdfunding campaign on Kickstarter (Droz, 2014). They were looking for \$25,000; they ended up with more than \$46,000.

At the moment hemp cultivation is in a state of limbo. According to the CIHFA, once federal law renders it operative, "the Attorney General shall issue an opinion on the extent of that authorization under federal law and California law... and whether federal

law imposes any limitations that are inconsistent with the provisions of this act,” an opinion which should be completed “as soon as possible” or within four months of the authorization – in this case, the passage of the Farm Bill.

Atty. Gen. John Conway of Kentucky has already declared that hemp grown in his state as part of pilot research programs can also be sold, and the Colorado Dept. of Agriculture has received more than 70 applications to grow hemp (Runyon, 2014). However, the U.S. Dept. of Agriculture has yet to inform farmers whether growing hemp will render them ineligible for federal farm subsidies due to hemp’s continued illegality under federal law. According to the Environmental Working Group, USDA subsidies for farms in Colorado totaled over \$5.4 billion from 1995 through 2012<sup>26</sup>. Until farmers are confident that cultivating hemp will not disrupt their business model or cut their subsidies, they will not embrace the new crop. However, if Kentucky is any guide, the question is no longer if farmers will embrace hemp, but when they will be able to.

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<sup>26</sup> Data courtesy of EWG Farm Subsidies – retrieved from <http://farm.ewg.org/region.php?fips=08000>

## Conclusions

2014 will go down in history as the end of American hemp prohibition, putting a stop to three-quarters of a century of bad policy. Now that research institutions can grow hemp to study, the real work can begin: maximizing the utility of this exceptionally useful plant. And while the hemp can only be cultivated on behalf of a research institution for research purposes, once it has been harvested it is no longer considered marijuana under the CSA and a farmer could do whatever s/he pleased with it.

Of all the points made in this paper, that is perhaps the most significant. Simply put, farmers can grow hemp for commercial purposes, provided that the crop in question is being grown for some research purpose. Chances are slim that any one farmer will be able to take part in enough research programs to utilize every part of the hemp plant. And again, industrial hemp is not illegal, but growing it can be. If it is legally grown, and legally cultivated, it is legal to sell.

This year, 100 farmers across Colorado will cultivate 1,300 acres of hemp for research and development (Baker, 2014). On April 30, Hawaii's governor signed into law a bill which allows the University of Hawaii College of Tropical Agriculture and Human Resources to establish a two-year industrial hemp remediation and biofuel crop research program (Voegele, 2014). Researchers at Cornell University and the State University of New York's College of Environmental Science and Forestry have expressed interest in growing hemp for research, should pending legislation permit cultivation in their state (Waldman, 2014). Kentucky farmers have already planted their first crop of industrial hemp seeds in over 50 years as part of five separate pilot research

programs with five different universities (Haire, 2014). To date, thirty-three states and Puerto Rico have introduced pro-hemp legislation and twenty-two have passed pro-hemp legislation ([votehemp.com](http://votehemp.com)).

Understandably, the business community is still not convinced of hemp's viability. An artificially-induced lack of market demand is still a lack of market demand. What is needed is an example. Hemp is bulky to transport and thus it is best to process it as close to where it is cultivated as possible. Hemp processing facilities ought to be constructed up and down the state. They can be outfitted to process other materials as well, to provide investment and job security should the legislative tide turn and hemp suffer any further legal indignities. Only when a model hemp processing facility is constructed - one that can demonstrate the practicality, utility and profitability of cultivating hemp – only then will corporate America truly feel comfortable embracing this new ancient technology.

## Appendix A

## Personal Communication with Dr. Valerie Vantreese-Askren

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**Industrial Hemp**

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Valerie Askren <valerie.askren@gmail.com>  
To: Alex Brant-Zawadzki <alex.brantzawadzki@gmail.com>

Mon, Apr 1, 2013 at 8:29 AM

Hello Alex,

Thank you for your inquiry. I do not track the U.S. nor the world hemp market any more. I continue to stand by my work as accurate at the time of publication.

I resigned from the University of Kentucky after the birth of my 8 year old twins and am now involved with other professional endeavors.

I wish you the best with your work.  
Valerie

On Mon, Apr 1, 2013 at 8:09 AM, Alex Brant-Zawadzki <alex.brantzawadzki@gmail.com> wrote:

Dr. Askren;

Good day to you. I hope you had a happy Easter.

My name is Alex. I'm a graduate student in Public Affairs at the University of San Francisco, specifically the Leo T. McCarthy Center for Public Service and the Common Good.

I have an odd and impertinent request for you.

As part of my coursework, I'm currently working with CA State Sen. Mark Leno's office and Vote Hemp to support passage of SB 566, which would facilitate the legalization of hemp cultivation here in CA.

Although we just achieved a major coup - a letter of support from the CA State Sheriffs Association - we are being opposed by the CA Narcotics Officers Association and the CA Police Chiefs Association.

I thought you might be interested and/or amused to know that their letter of opposition cites you heavily, especially the conclusions of your 1998 report on US hemp cultivation, passing it off as if it was up-to-date information. At least they refer to you as the foremost expert in the nation on the economics of hemp cultivation. Kudos!

When I saw your name in their letter, it reminded me of your 1998 paper, as I had cited it repeatedly in a white paper I wrote in the fall. I was concerned, as I knew that your observations upon which they rely so heavily had been made fifteen years ago.

I looked you up and came across your recent hiking publications, and your work with the Sierra Club. It turns out that historically the Sierra Club has supported hemp cultivation for environmental reasons.

If you don't mind me asking - over the course of the past fifteen years, have your views on the viability and/or utility of an American hemp industry changed at all?

And if so, I don't suppose you'd be willing to write a very brief letter attesting to that fact?

The Narcs/Polics Chiefs letter also used data on total acreage of European hemp cultivation from 2005,



## Appendix A

## Personal Communication with Dr. Valerie Vantreese-Askren

claiming it was "the most recent year for which figures are available". Which hasn't been true since 2010. It's like they think they can submit whatever they want and no one's going to check to see if the information is actually up to date.

Anyhow, I apologize for the impertinence. I realize this is something of an intrusion, and it might appear that I'm asking you to discredit your body of work, which I'm not - I just see what strikes me as an academic injustice being done to further a political agenda, and I thought you might like to know that your research from the 20th century is being presented as modern science. And, frankly, I hoped you might want to do something about it.

I've attached the letter of which I speak.

I thank you for your time and I wish you all the best in the coming months.

With respect,

*Alex B-Z*

[alex.brantzawadzki@gmail.com](mailto:alex.brantzawadzki@gmail.com)

[linkedin.com/in/alexbz](https://www.linkedin.com/in/alexbz)

[facebook.com/alexbz](https://www.facebook.com/alexbz)

[twitter.com/beebling](https://twitter.com/beebling)

## Appendix B

## Personal Communication with Carol Majeske

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**Industrial hemp**

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Majeske, Carrie (C.N.) <cmajeske@ford.com>  
To: Alex <support@votehemp.com>

Tue, Oct 29, 2013 at 5:47 AM

Hi Alex,

Yes, I was focused on North America and recognize the possibility of hemp in other regions but I'm not aware of them specifically. I will reach out to my colleagues to confirm. It's also important to note that we're using different natural fibers as well: wheat straw, coconut, cellulose, kenaf. I believe the compression molded door component was kenaf, but I'll confirm that as well, and see what I can get in terms of samples.

Stay tuned....

Carrie

-----Original Message-----

From: Alex [mailto:support@votehemp.com]  
Sent: Monday, October 28, 2013 11:43 AM  
To: Majeske, Carrie (C.N.)  
Cc: Viera, John (J.J.); Hobbs, Karen (K.M.); Mielewski, Deborah (D.F.); Ben Droz  
Subject: RE: Industrial hemp

Carrie;

Apologies for repeating my questions - I somehow missed your initial (and timely) response. The e-gremlins have been hard at work on my inbox as of late.

Thanks for getting back to me, but I must admit I'm a bit confused.

Either I was too vague in my choice of terminology, or you're referring specifically to Ford's American manufacturing, because according to your own Sustainability Reports, "[a]lmost 300 parts used across Ford's European vehicles are derived from sources such as cotton, wood, flax, hemp, jute and natural rubber." Also, some sources suggest the natural fiber compression-molded door panels on the 2011 Ford Focus are made with hemp.

Also, at events such as the 2012 Green Festival (see attached photo) and the 2013 Green Fest, where our executive director spoke with John Viera, Ford has displayed signs which read, "Natural fibers such as wheat straw, hemp, coconut coir and cellulose are used in place of glass fibers for plastic reinforcement."

Hence my apparent error. Would there be any way to get a hold of a sample component from among those nigh-300 parts, or would we have to contact Ford's European operation?

Thanks for your time.

With respect and appreciation,

Alex B-Z  
Grassroots Outreach Coordinator  
Hemp Industries Association / Vote Hemp  
support@votehemp.com  
949-230-2664

## Appendix B

## Personal Communication with Carol Majeske

[http://www.votehemp.com:2095/cpsess817303862/horde/imp/view.php?actionID=compose\\_attach\\_preview&id=1&messageCache=1612866041526e85d68e42d](http://www.votehemp.com:2095/cpsess817303862/horde/imp/view.php?actionID=compose_attach_preview&id=1&messageCache=1612866041526e85d68e42d)

L to R: Steve Levine, HIA past president, Eric Steenstra, Vote Hemp president, and John Roulac, founder & CEO of Nutiva. Taken at the San Francisco Green Festivals 2012 by Hemp Industries Association (HIA) president Anndrea Hermann.

Quoting "Majeske, Carrie (C.N.)" <[cmajeske@ford.com](mailto:cmajeske@ford.com)>:

> Hello Alex.  
> Thanks for your connecting with Ford. Right now we don't use hemp in  
> any production parts, but there is promising research underway to  
> develop an application, so we'll be ready when hemp is grown/available  
> in the US. Ford recently provided a statement to  
> Senator McConnell's office, supporting hemp within the Farm Bill.  
> We look forward to seeing your work come to fruition, hopefully  
> coincident with our research!  
>  
> Sincerely,  
>  
> Carrie Majeske  
> Ford Motor Company, Global Sustainability Integration One American  
> Road, Suite 208-A2, Dearborn, MI 48126  
> (313) 322-1116 / [cmajeske@ford.com](mailto:cmajeske@ford.com)  
>

Alex Brant-Zawadzki  
Grassroots Outreach Coordinator  
Hemp Industries Association  
[support@votehemp.com](mailto:support@votehemp.com)  
949.230.2664

## Appendix C

## CNOA/CPCA Letter of Opposition to SB 676

MEMORANDUM

TO: HONORABLE MARK LENO  
FROM: CALIFORNIA NARCOTIC OFFICERS ASSOCIATION  
CALIFORNIA POLICE CHIEFS ASSOCIATION  
SUBJECT: OPPOSITION TO SENATE BILL 676  
DATE: APRIL 4, 2011

The California Narcotic Officers' Association and the California Police Chiefs Association would like to register their strong opposition to Senate Bill 676, which is slated to be before the Senate Committee on Agriculture on April 5. We believe there are a number of very serious issues in connection with this bill – taken either individually or together, those issues call for the rejection of SB 676.

To begin with, cultivation of hemp is illegal in the United States. Enactment of SB 676 will not change that state of affairs at all because the prohibition against cultivation of industrial hemp is found in federal law, which would be unaffected by passage of SB 676. That federal law, 21 USC 802 (16), has been on the books since 1970 and makes it clear that it is illegal to cultivate any cannabis plants.

Although proponents of SB 676 would have you believe that this is not the case, the truth is that even Eric Steenstra, President of Vote Hemp, has admitted that “under current national drug control policy, industrial hemp can be imported, but it cannot be grown by American farmers.” (Vote Hemp news release February 13, 2007)

It was the unassailable fact that federal law prohibits the cultivation of hemp that contributed to Governor Schwarzenegger's veto of AB 1147 and of AB 684 in two successive sessions. Since that time, nothing has changed with respect to federal law. The very best thing that can be said about this bill is that it is seriously premature and that any action on it should be deferred until cultivation of hemp is legalized – something this bill cannot do.

Proponents argue that the recent 9<sup>th</sup> Circuit ruling in *Hemp Industries v. Drug Enforcement Administration*, (9<sup>th</sup> Cir. 2004) 357 F.3d 1012, permits the cultivation of industrial hemp. This is simply not the case. That case was decided on very narrow procedural grounds which found that DEA had not gone through its own procedural hoops in ordering destruction of hemp related products. The best evidence of this fact is that Congressman Paul subsequently introduced a federal bill to legalize hemp cultivation. Had the *Hemp Industries* case actually legalized hemp cultivation, the Congressman's bill would not have even been necessary.

There are very sound public policy reasons for prohibiting the cultivation of hemp. Hemp is indistinguishable from marijuana and its cultivation will seriously compromise our marijuana enforcement efforts. Please take a look at any Internet photographs of hemp and marijuana plants. You will find that the photographs are indistinguishable, one from the other! The burdens this will place on law enforcement are simply incalculable. Since hemp and marijuana are indistinguishable either through ground or aerial surveillance, all enforcement operations will have to await lab tests prior to taking any action. The reality is that labs are backed up with other forensic issues and marijuana enforcement will in all likelihood be curtailed – something that is very unfortunate coming at a time when large criminal combines are firmly ensconced in marijuana production. Hemp could be a useful device by drug traffickers to evade detection, as well; for example, a marijuana producer might grow a portion of his/her grow area in hemp (the THC reduction caused by hemp-marijuana cross pollination,

## Appendix C

## CNOA/CPCA Letter of Opposition to SB 676

contrary to assertions of proponents, does not occur in a plant's first generation) as a way to fool law enforcement.

There is even a humorous dimension to the hemp/marijuana confusion: In several British communities law enforcement has reported theft of hemp from hemp farms. Investigation revealed that the thefts were being carried out by persons under the impression that the hemp would get them high. As a result, several agencies have taken to posting signs around hemp farms informing passers-by that the products being grown on this farm will not get anyone high and that there is no need to steal them!

Proponents argue (with a vigor that calls to mind the patent medicine salesmen of the old west) that hemp cultivation will be a virtual economic and ecological panacea for Californians. Again, this is simply not true. According to Dr. Valerie Vantreese-Askren, Professor of Agricultural Economics at the University of Kentucky, hemp is a niche market product and is destined to remain so. Dr. Vantreese-Askren points out that cultivation costs are highly labor intensive and effectively mean that American farmers will not be able to compete against heavily subsidized Chinese and European hemp producers.

Dr. Vantreese-Askren, who is recognized as the leading authority on the economics of hemp cultivation, is dubious about the viability of a hemp cultivation industry in the United States because American hemp farmers would be unable to compete with the heavily subsidized Chinese and European cultivation industries. Moreover, Dr. Hayo M. G. van der Werf, with the French National Institute of Agronomic Research, and former editor of the Official Journal of the International Hemp Association, has stated that many of the claims for hemp's benefits are "inaccurate" and "may be due to the emotional commitment many individuals have in making this a viable crop." Finally, European production of hemp has reduced significantly over the last decade. In 1998, over 100,000 acres of hemp were produced in Europe. In 2005, the last year statistics are available, that number had dropped to 39,000 acres – hardly production patterns that suggest an economic panacea.

Hemp production is illegal and passage of SB 676 will not change that; hemp and marijuana are indistinguishable and hemp can be used by marijuana growers to evade detection; there is no real economic viability to hemp cultivation. For these reasons, CNOA respectfully requests that you vote "no" on Senate Bill 676.

## Appendix D

## CNOA/CPCA Letter of Opposition to SB 566



**California Narcotic Officers' Association  
California Police Chiefs Association**

1127 11th Street, Suite 523  
Sacramento, CA 95814  
Phone: (916) 447-3820 Fax: (916) 441-1974  
jlovell@johnlovell.com



March 22, 2013

Honorable Mark Leno  
Member of the Senate  
State Capitol  
Sacramento, CA 95814

Dear Senator Leno:

The California Narcotic Officers Association and the California Police Chiefs Association regret that they must oppose Senate Bill 566, which would legalize the cultivation of industrial hemp in California. This bill will undermine law enforcement efforts to curtail marijuana cultivation and will result in significantly increased costs in connection with the prosecution of marijuana trafficking cases.

Grown in the wild, hemp and marijuana are visually indistinguishable. The impact of legalizing hemp will be that marijuana cultivators will be able to camouflage their illegal grows with a perimeter of same sex hemp plants. Effectively this will require law enforcement to test plants for THC content before taking any action – and beguiling hemp camouflage can enable the cultivator to potentially escape accountability altogether. Since the state crime labs currently are not equipped to test for THC content, they will either have to incur the costs of gearing up for this function, or local agencies will have to incur the additional costs of finding a private lab to conduct testing.

The cost of THC testing has another dimension in the context of marijuana trafficking prosecutions – if SB 566 becomes law, every prosecution for marijuana trafficking, cultivation, or transportation, will now require prosecutors to test the seized product for THC content. Again, according to the Attorney General's office, there are no state crime labs that test for THC content. The increased costs for marijuana trafficking prosecutions are incalculable.

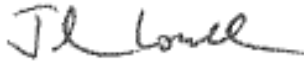
Perhaps the additional costs to law enforcement could be justified if there were some countervailing economic benefit from hemp production. The best evidence suggests, however, that no such countervailing economic benefit will occur. Although SB 566 proponents argue (with a vigor that calls to mind the patent medicine salesmen of the old west) that hemp cultivation will be a virtual economic and ecological panacea for Californians, the assertions are without foundation. According to Dr. Valerie Vantreesche-Askren, Professor of Agricultural Economics at the University of Kentucky, hemp is a niche market product and is destined to remain so. Dr. Vantreesche-Askren points out that cultivation costs are highly labor intensive and effectively mean that American farmers will not be able to compete against heavily subsidized Chinese and European hemp producers.

## Appendix D

## CNOA/CPCA Letter of Opposition to SB 566

Dr. Vantreesse-Askren, who is recognized as the nation's leading authority on the economics of hemp cultivation, is dubious about the viability of a hemp cultivation industry in the United States because American hemp farmers would be unable to compete with the heavily subsidized Chinese and European cultivation industries. Moreover, Dr. Hayo M. G. van der Werf, with the French National Institute of Agronomic Research, and former editor of the Official Journal of the International Hemp Association, has stated that many of the claims for hemp's benefits are "inaccurate" and "may be due to the emotional commitment many individuals have in making this a viable crop." Interestingly, European production of hemp has reduced significantly over the last decade. In 1998, over 100,000 acres of hemp were produced in Europe. In 2005, the last year statistics are available, that number had dropped to 39,000 acres – hardly production patterns that suggest an economic panacea. We respectfully request a "no" vote on Senate Bill 566.

Sincerely,



John Lovell  
Legislative Counsel

CC: Dr. Anne Megaro, Chief Counsel Senate Committee on Agriculture  
Doug Yoakam, Republican Counsel Senate Committee on Agriculture

**Appendix E**

Letter from Jack Herer to Gov. Arnold Schwarzenegger

Jack Herer  
P.O. Box 2050  
Lower Lake, CA 95457

September 4, 2006  
Governor Arnold Schwarzenegger  
State Capitol Building  
Sacramento, CA 95814

Dear Governor Schwarzenegger,

I have been writing about industrial hemp and campaigning for the legalization of all forms of cannabis hemp since 1985. Growing hemp as nature designed it is vital to our urgent need to reduce greenhouse gases and ensure the survival of our planet. However, AB1147 in its present form could severely compromise hemp's scarce remaining germplasm and endanger the lives of Californians who legally grow cannabis for medicine.

A provision that seeds originate from native California hemp strains was struck from AB1147 at the last minute, and if you sign it, only cannabis with a miniscule amount of THC (0.3 %) could be grown in our state. Lower THC strains grown in Canadian studies have resulted in lesser yields and shorter stalks than those with natural amounts of the cannabinoid, which serves as a sunscreen for the plant.<sup>(1)</sup> Without its natural sunscreen, yields of the crop will be insufficient to justify hemp cultivation in California, and pollen from low-THC hemp could infect native hemp and ruin its seeds. We cannot let this happen.

A 1916 USDA report found hemp could make four times as much paper per acre as trees, superior paper that does not need chlorine bleach. Its seed oil is the healthiest food on the planet. Hemp is the best plant in the world to make building materials, fabric and fuel, from both its stalk and seed. Currently biodiesel fuel is primarily made of soy, and 81 percent of the U.S. soy crop is genetically modified. Biotechnology forces are mobilizing to cash in on the biodiesel bonanza.

On August 15, Monsanto, which has experimented with hemp, acquired Delta and Pine Land Company, the developer of terminator technology - plants that are genetically modified to produce sterile seeds at harvest. D&PL claims that



it is already growing genetically modified cotton and tobacco containing terminator genes. Under the guise of a group called CropLife America, Monsanto, Dow Chemical, DuPont and other corporations spent \$621,000 to oppose Mendocino county's anti-GMO Measure H in 2004. In response, Measure H backers brought in 73-year-old Canadian farmer Percy Schmeiser, whose canola crops were contaminated with Monsanto's patented "Round-up Ready" GMO/GE canola, causing him to be sued by Monsanto for "property theft" and "patent infringement."

Cross-pollination is also an issue for medicinal marijuana growers, who are protected by Proposition 215, made law by California voters in 1996. John LaBoyteaux, an organic farmer, testified before the Senate Agriculture Committee on June 29 saying he and his fellow farmers planned to grow low-THC hemp in a malicious attempt to ruin marijuana gardens in Northern California. Pollen can travel for miles, and large fields of low-THC could well accomplish this mean-spirited goal. It could also drive the crop further indoors, causing environmental problems, over consumption of electricity, diesel spills, and noise. This is a life or death issue for Californians with AIDS, cancer, and other serious illnesses.

For all of these reasons and more, I ask you to veto AB1147 and instead call for the legalization of cannabis in its natural form.

I know that you have bravely and honestly admitted your own youthful marijuana use, and I see that it hasn't hurt your health or ability to accomplish your goals. We want hemp without harassment and no more marijuana smokers clogging California prisons.

Cannabis industries could be a boon for California like our state has never before seen, enabling us to stop using petrochemicals and felling out forests, while recovering our forested lands and protecting our farmlands. It is in your hands to make this happen and make yourself a hero to the planet and its people.

Sincerely,

Jack Herer

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