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HEMP AS AN ALTERNATIVE TO WOOD FIBER IN OREGON^{aaa1}*In loving memory of Gayle Elizabeth Bradfield-Clark*

Wood products are a significant factor of the Oregon economy, providing 63,000 jobs in 1992.¹ However, heavy emphasis on even-aged management (clearcutting) and the resultant loss of old growth forests² has alarmed both the public and federal foresters.³ As a result, alternatives are being sought. For many of these wood products, especially paper, an alternative source of fiber is hemp (*Cannabis sativa*), which has been used for thousands of years to make paper, cloth, and other commodities.⁴ Annual fibers such as hemp are more sustainable over the *120 long run, due to higher yields per acre combined with less destructive methods of production, as compared to tree-based fibers such as Douglas fir.⁵

Although hemp is the same species as marijuana, the two plants are very different in terms of drug content and intended use. While marijuana may be grown for high levels of psychoactive substances, hemp is grown strictly for fiber and seed, which are in turn used for a variety of industrial processes, including paper, construction materials, oil and food.⁶

In response to the perceived negative pharmaceutical effects of marijuana, the current legal regime in the United States prohibits production of hemp for any purpose. Meanwhile, other countries enjoy a panoply of benefits from purely industrial hemp. In Oregon, minor changes or reinterpretations of state and federal law may provide an opportunity to reap the widespread advantages of hemp, including economic, environmental, and social benefits, without changing current policies regarding marijuana.

Following a short historical background, this Article briefly considers the environmental, agricultural, and economic benefits of hemp, and examines the effects of full-scale industrial hemp production. Next, the current legal regime is considered, first from an international perspective, then on state and national levels. Finally, changes in the legal regime are suggested to allow for production of industrial hemp.

I HEMP***A. History***

In North America, hemp was widely used before European settlement, contrary to popular views. It is believed by some scholars that hemp came from Asia with the migration across the *121 Bering Strait, over 10,000 years ago.⁷ John De Verrazano discovered it growing wild in Virginia in 1524.⁸ It is also well established that marijuana has been used for both religious and recreational purposes for thousands of years.⁹

Hemp was also widely used by European settlers. In fact, hemp was considered so useful that some colonies required farmers to grow a certain amount of hemp, under penalty of law.¹⁰ In Virginia in the 1760s, a bounty of “four shillings for every gross hundred of hemp” was to be paid to farmers.¹¹ Most famous of these Virginia hemp farmers were George Washington and Thomas Jefferson; Jefferson considered hemp so important that he even arranged to smuggle Chinese hemp seeds back to the United States because of their superior qualities.¹² Another forefather, Benjamin Franklin, founded one of America's first paper mills, which used hemp as its fiber source.¹³

Hemp continued to be the main fiber source throughout the 1800s. The census of 1870 indicates that domestic production peaked in 1860 at over 74,000 tons,¹⁴ while in 1850 34,000 tons were grown on 110,000 acres and had a value of over five million dollars, mostly in Kentucky and Missouri.¹⁵

Hemp production fell after the end of slavery, due to the labor-intensive nature of the retting process.¹⁶ However, the U.S. Department of Agriculture predicted in 1899 that hemp would become an extensive industry in America once mechanical harvesting and stripping of the fiber was achieved.¹⁷ In 1938, *Popular Mechanics* magazine heralded this breakthrough, calling *122 hemp the “New Billion Dollar Crop.”¹⁸ Hemp acreage had been doubling each year in the 1930s, and was predicted to continue to double annually for the foreseeable future.¹⁹

B. Prohibition

Despite the economic promise of hemp in the 1930s, political pressure from other industries caused Congress to pass a Marijuana Tax Act in 1937.²⁰ Modeled after similar legislation aimed at machine guns, the Tax Act required a tax stamp on all sales of hemp products. Also like machine guns, the Federal government refused to issue such stamps, effectively eliminating legal sales of hemp.²¹

However, not everyone was in favor of this legislation. For example, Matt Rens of the Rens Hemp Company suggested changes (ultimately rejected) that would allow for less onerous regulation of fiber and seed production.²² Further, Dr. John Woodward of the American Medical Association protested that his group had not even been notified of the proposed legislation, let alone asked to comment on it.²³ This lack of public input has cast a pall on the legitimacy of marijuana prohibition that lingers today.

*123 The Marijuana Tax Act began a long line of legislation²⁴ that, combined with competition from other fiber sources, has severely decreased hemp harvest worldwide.²⁵ These prohibitions have impacted global economic, social, and environmental values.

C. Current Use of Hemp for Fiber

Despite the plethora of antagonistic attention garnered by marijuana, hemp has survived as a valuable cash crop in many regions of the world. It is a source of cloth and paper in China, where massive population growth has demanded maximum production of renewable resources. Other former communist states such as Hungary, Poland, and Ukraine have grown hemp for fiber for years,²⁶ despite criminalization for other uses.²⁷

The European Union has also been actively supporting hemp farming since 1971.²⁸ By placing strict controls on the source of seed, the Union has guaranteed production of hemp with minute, nonpsychoactive levels²⁹ of psychoactive delta-9 tetrahydrocannabinol (THC) and still allows for a profitable crop. Italy has studied hemp extensively, including paper-making

and variations of cellulose content during the growing year.³⁰ France has been cultivating hemp since the 1950s, and in 1992 over 9000 acres were planted.³¹

*124 In the United Kingdom, a consortium of farmers called Hemcore reversed 30 years of prohibition and persuaded the UK government to accept hemp production, following the protocols of the European Union.³² The success of these efforts indicates that, despite negative publicity and strict controls on markets and production, hemp still manages to provide sufficient financial return to entice farmers to cultivate it. Other western countries actively promoting hemp cultivation are Australia,³³ Canada,³⁴ and Holland,³⁵ while India, China, and Thailand also make wide use of it in Asia.³⁶

D. Environmental Benefits of Hemp

Annual crops such as hemp can provide a wide variety of environmental benefits, but it is important to understand that this Article does not advocate growing hemp in recently clearcut lands. Those areas must be regenerated as forests, including all attendant biological diversity. Instead, lands currently cultivated with other crops (such as wheat or corn) should be used for hemp. Besides giving the benefit of increased acres of healthy forest,³⁷ industrial cultivation of hemp is more sustainable than wood in terms of agroecology, processing, and useful life.

Agroecology is the interaction between agriculture and naturally occurring ecological processes. Hemp provides benefits in this area because it requires no herbicides or pesticides,³⁸ and in *125 fact acts as a weed suppressor.³⁹ Another agricultural benefit of hemp is its extensive root structure, which helps to break up soil and distribute water and nutrients.⁴⁰ One of hemp's drawbacks in this area is its tendency to use substantial amounts of soil nutrients; this can be alleviated by leaving the leaf material in the field, as well as rotating with nitrogen-fixing crops.⁴¹

Hemp also has considerable environmental benefits with respect to the processing necessary to make paper. Because hemp contains less lignin, the binder between fibers, less chemical treatment is necessary to separate and orient the fibers during the pulping process.⁴² Further, the lighter color of hemp as compared to wood fiber requires less (or no) bleaching to achieve a clean, white sheet of paper.⁴³

Finally, the increased strength of hemp fiber⁴⁴ as compared to wood or other fibers will have two environmental advantages. First, articles made with hemp will last longer, resulting in less consumption of virgin materials. Second, this added strength allows hemp paper to be recycled several times more than paper made from wood.⁴⁵

II HEMP AS AN INDUSTRIAL PRODUCT

When grown for fiber, hemp seed is broadcast over the field to produce 150-400 plants per square meter.⁴⁶ Plenty of rainfall is helpful, especially in the first six weeks, and rotation with other crops is suggested, with a nitrogen-fixing crop grown immediately prior to hemp.⁴⁷ In Europe, up to seven tons/acre of dry *126 stalks may be harvested after a six month growing season, in addition to one ton of hurds⁴⁸ and one half ton of seed.

Once harvested, the fibrous stalks must be separated from the cottony hurds found inside. Historically this was done by retting, or allowing the stalks to rot slightly in pools or stacked in the fields over the winter.⁴⁹ However, modern technology has produced the decorticator, which chops up the stalks into fine pieces; the heavier fibers fall through, while the lighter hurds are blown out horizontally with a large fan.

The hurds are useful to make paper,⁵⁰ while fiber from the heavier stalks may be used for anything from cloth and rope to construction materials, such as fiberboard or even beams.⁵¹ The French claim that an entire house may be constructed from the harvest of one hectare (2.4 acres) of hemp.⁵²

III ECONOMIC ANALYSIS

A. Volume and Acreage

During the 1980s, federal authorities allowed logging of 4.5 Billion Board Feet (BBF)⁵³ per year in Northwest federal forests, covering about 71,000 acres.⁵⁴ The Clinton Forest Plan calls for 1.1 BBF of logging on about 20,000 acres;⁵⁵ the yield per acre will continue to decline because the bigger trees have already been harvested.⁵⁶ Given that a board foot of Douglas fir weighs about *127 1.5 pounds,⁵⁷ approximately 3.4 million tons of fiber were taken annually during this period.

The French have reported annual yields of two to three tons per acre of hemp fiber;⁵⁸ similar yields have been noted in Ukraine.⁵⁹ More recently, hemp crops have yielded up to 6.7 tons per acre.⁶⁰ Assuming that U.S. farmers could produce six tons per acre, the 3.4 million tons of tree fiber could be replaced by hemp grown on about 550 thousand acres. While the acreage is much greater than that clearcut by the timber industry, this is an *annual* harvest, while old growth clearcuts only occur once; that acreage is consigned to tree farms with rotations of 80 to 100 years. Also, the acreage required by hemp compares favorably with the 350 to 450 thousand acres of grass seed grown in Oregon each year⁶¹ as well as with the 110 thousand acres of hemp planted in the United States in 1850,⁶² and pales beside the 19 million acres of wheat and 75 million acres of corn grown annually in the United States.⁶³

B. The Profit Motive: Comparing Hemp to Wood

Currently, lumber and wood chip prices are very volatile.⁶⁴ Although currently priced at about \$255 per thousand board feet⁶⁵ they are expected to rise. Assuming conservatively that the price will be \$500 per thousand, and given that the average acre of Northwest National Forest can produce about 459 board *128 feet per year,⁶⁶ National Forests produce about \$230 per acre-year. Further, most timber sales on public land are sold below cost, indicating significant government subsidies which would further deflate the productivity of National Forests.⁶⁷

For hemp, the French receive about 3000 French Francs (FF) per ton of fiber, in addition to 300 FF per 100 kg of seed, with yields of three tons of fiber and 100 kg of seed per acre.⁶⁸ The FF is currently about six per dollar, resulting in about \$1500 per acre for fiber, and \$50 per acre for seed. The resultant \$1550 per acre is more than 6 times the value of wood production. Of course, there are a multitude of factors which could affect this comparison. Yields will certainly increase with refinement of germ plasm and growing methods, as well as with the catalysis of an increased market for raw fiber and finished products.

The Canadian government has also studied economic returns of hemp cultivation, with positive results. Raw fiber has been estimated to produce up to 1000 dollars per acre, while total return can be up to 2000 dollars per acre when hurds, stalks, and seed are included.⁶⁹

C. Employment

A thriving hemp industry could provide thousands of jobs in Oregon, in many diverse fields.⁷⁰ Oregonians are already taking steps in that direction. Imported hemp paper,⁷¹ experiments with hemp fiberboard,⁷² and attempts to grow hemp

commercially,⁷³ indicate that Oregon businesses are realizing that hemp ***129** may provide a valuable economic opportunity, in addition to moving toward a more sustainable future. Furthermore, institutional use⁷⁴ and positive media coverage⁷⁵ have assisted in improving the public image of hemp.

D. Economic Costs and Benefits of Hemp Cultivation

Using hemp in production of paper⁷⁶ and construction materials⁷⁷ will involve essentially the same processes as those used for wood fiber. However, differences in cultivation, materials, and processing will modify economic returns and should be considered.

As mentioned above, hemp contains less lignin than wood and will therefore require less energy and chemical inputs to make the pulp that becomes paper. This will mean lower costs of obtaining these resources, as well as substantial savings (economic and environmental) in the disposal of toxic wastes.⁷⁸ For fiberboard, the processing will remain essentially the same, but the hemp stalks will have to be cut to about 3/4 inch lengths, either in the field or at the factory.⁷⁹

One of the problems with using hemp, or any other annual fiber, is the increased cost of transporting the fiber from the field to the factory.⁸⁰ Because annual fibers are less dense than wood from trees, these costs can be substantially higher. However, two solutions will help to alleviate this problem. First, modern baling equipment will allow farmers to produce bales or loaves of hemp stalks that are as dense as wood.⁸¹ Second, building the production plant at or near the site of cultivation makes good economic sense for any industrial undertaking.⁸²

***130 IV CURRENT LEGAL REGIME**

Currently, most Western democracies base their drug control statutes on the Single Convention on Narcotic Drugs,⁸³ which establishes schedules for drugs according to their usefulness as treatment and potential for abuse. Paradoxically, the Single Convention both explicitly exempts industrial hemp production from regulation⁸⁴ and gives signatories the right to forbid *Cannabis* cultivation.⁸⁵ Therefore, international law provides no easy resolution to the legality of hemp cultivation.

Oregon, like most states, has modeled its Uniform Controlled Substances Act (UCSA)⁸⁶ on the Federal Controlled Substances Act (FCSA).⁸⁷ Therefore, a brief examination of the UCSA with appropriate comparisons to the FCSA will enable parallel analysis of the two statutes.

In Oregon, the Legislature makes the final determination⁸⁸ as to classification of any particular substance.⁸⁹ However, the State Board of Pharmacy (Board) has been delegated primary control of the Schedule by the legislature.⁹⁰ Oregon controlled ***131** substance classification virtually mirrors federal classification under FCSA. The UCSA provides authority to the Board to modify the Schedules,⁹¹ and the Oregon State Police (OSP) may administratively add precursor substances to those substances enumerated in [section 475.940\(1\) of the Oregon Revised Statutes](#).⁹² The FCSA delegates authority over the schedules to the United States Attorney General through the Drug Enforcement Administration.⁹³

The UCSA regulates “controlled substances.”⁹⁴ Controlled substance is defined as “a drug or its immediate precursor classified in [the] Schedules.”⁹⁵ The Schedules are a classification scheme ranking drugs according to their danger to the public.⁹⁶ ***132** Marijuana is classified as a drug⁹⁷ but not as an immediate precursor.⁹⁸

The purpose of the statutory scheme is to regulate “substances recognized”⁹⁹ as or “intended for use as drugs.”¹⁰⁰ Accordingly, the statutory definition for drug, read as a whole, would seem to make the “intended use” of a substance as a drug a predicate for any determination of whether a substance is to be controlled under the UCSA.¹⁰¹ Additionally, the scope and authority of the statute do not include power to prohibit use of substances manufactured, produced, or grown *for uses other than drugs*.¹⁰²

The UCSA definition of “production” includes “manufacture, planting, cultivation, growing, or harvesting.”¹⁰³ However, the *133 UCSA only applies to production of a controlled substance.¹⁰⁴ Accordingly, the criminal sanctions under the UCSA are triggered for “unlawful manufacture of a controlled substance.”¹⁰⁵ Theoretically, a defense could be available against criminal sanction of a hemp fiber manufacturer who was unaware of the (drug) nature of the fiber item intended to be produced¹⁰⁶ --that is, if a court will accept evidence that the accused only intended to grow marijuana to manufacture a non-drug related product.

Both the UCSA and the FCSA explicitly define marijuana. Under the UCSA,

“[m]arijuana” means all parts of the plant Cannabis family Moraceae, whether growing or not; the resin extracted from any part of the plant; and every compound, manufacture, salt, derivative, mixture, or preparation of the plant or its resin. It does not include the mature stalks of the plant, fiber produced from the stalks, oil or cake made from the seeds of the plant, any other compound, manufacture, salt, derivative, mixture, or preparation of the mature stalks (except the resin extracted therefrom), fiber, oil, or cake, or the sterilized seed of the plant which is incapable of germination.¹⁰⁷

The FCSA definition is virtually identical.¹⁰⁸

The definition of marijuana, for purposes of regulation under the FCSA and UCSA, explicitly does not include certain commercial, non-drug uses¹⁰⁹ of various parts of the marijuana plant. *134 The terms “mature stalks of the plant,” “fiber produced from the stalks,” and “fiber” recognize historic¹¹⁰ and current world manufacture and trade in such non-drug related commercial products as hemp rope and clothing made from hemp plant fiber.

The term “oil or cake made from the seeds of the plant” recognizes uses of the marijuana plant including heating, cooking and lamp oil, and food products made from marijuana-seed cake. Importantly, these products can be made from the “seeds of the plant,” not just from sterilized seeds.¹¹¹ The term “sterilized seed of the plant which is incapable of germination” recognizes the bird seed industry which sells marijuana/hemp seed as its product. Thus, utilizing either a literal or a plain meaning interpretation,¹¹² the exclusions from the definition appear to include both viable hemp seed and sterilized seed.¹¹³

These exceptions to the definition strongly suggest that it was not the intent of Congress nor the object of the law to prohibit commercial uses of marijuana which are not of a drug-related nature. It is logical to assume then that the excluded uses and products should not be regulated or prohibited under the statute.¹¹⁴

However, both the DEA and the United States Customs Service interpret the statute to allow only imports of marijuana products that contain no amount of THC, and mature stalks that have no attached leafy vegetative material.¹¹⁵ Thus, the status quo is that in both the United States and Oregon domestic hemp production is illegal.

*135 V ALLOWING FOR INDUSTRIAL HEMP AGRICULTURE IN OREGON

A. State Regulation of Hemp Production

In order to clarify the question of legality of hemp fiber production under the UCSA, the Oregon Pharmacy Board should be petitioned for a determination whether hemp fiber production is within its jurisdiction.¹¹⁶ Since regulation and control of fiber crop production would traditionally fall to the Oregon Department of Agriculture (ODA), it seems that any rulemaking in connection with hemp fiber crop production should be under the ODA jurisdiction.¹¹⁷ Thus, if the Board determines it has no jurisdiction over hemp, a second petition would be warranted, this one to ODA for rules governing hemp agriculture in order to guarantee adherence to Oregon law.

B. Federal Law

1. Federal Preemption

Even if, arguably, the UCSA doesn't regulate the manufacture of hemp and products therefrom, state scheduling of controlled substances is preempted by federal law to the extent that it is inconsistent with federal controls and prohibitions regarding the same substance.¹¹⁸ Marijuana's listing in Schedule I by both federal and Oregon law is consistent. However, federal law allows controls and prohibitions of any product that, although not manufactured as a drug or precursor, contains any amount of the listed controlled substance.¹¹⁹ Thus, to produce items from hemp *136 fiber--which contains minimal amounts of the controlled substance THC, even if not intended for use as a drug or precursor, the DEA must grant a product exception,¹²⁰ exemption,¹²¹ or exclusion.¹²²

2. Obtaining a License from DEA to grow Industrial Hemp

In the alternative, the DEA may grant licenses to grow hemp pursuant to the FCSA.¹²³ Such a license was granted to The Hempstead Company to grow an experimental crop of industrial hemp in 1993.¹²⁴ Unfortunately, the State of California determined that the crop was illegal if it contained *any* amount of THC, which was confirmed by chemical assay. Therefore, the crop was destroyed by the state prior to harvest.¹²⁵ Thus, future efforts in this area should ensure compliance with state *and* federal law prior to initial planting.

Further, the DEA could institute research into a viable hemp seed that has minimal or no THC strength. Similar efforts in Ukraine have produced hemp strains with no detectable THC.¹²⁶

****137 3. Petition to Remove Hemp From the Schedules***

The FCSA allows the Schedules to be amended by rule “on the petition of any interested party.”¹²⁷ Such a petition might be filed to explicitly remove hemp from the schedules and the statutory definition of marijuana, because it is *not* “intended for use as a drug.”¹²⁸ While similar efforts to reschedule marijuana for medicinal use have been unsuccessful, this failure offers valuable lessons for future efforts aimed at industrial hemp.

In 1972, the National Organization for the Reform of Marijuana Laws (NORML) petitioned the Bureau of Narcotics and Dangerous Drugs (BNDD, the precursor to DEA) to move marijuana from Schedule I (with no known medical use) to a less restrictive schedule. After initially refusing the petition, considerable legal maneuvering¹²⁹ led to public hearings in 1986 and 1987 before Administrative Law Judge Francis L. Young. Judge Young recommended that marijuana be rescheduled because it was “one of the safest therapeutically active substances known to man.”¹³⁰ However, the DEA rejected these findings and denied the petition to reschedule.

A number of reasons for this denial were cited by DEA Administrator John C. Lawn. First, he rejected the studies cited by NORML for medical marijuana use, due to reliance on anecdotal rather than scientific information.¹³¹ Further, he cited the lack of scientific studies supporting medical marijuana use; this is interesting in light of DEA recalcitrance at authorizing such research.¹³² *138 Finally, the Administrator claimed Judge Young was not impartial in that he ignored the Government's data and failed to follow standards issued by the Administrator.¹³³ This result was upheld by the DEA in 1992.¹³⁴

These findings do much to inform future petitioners of ways to improve their success. First, a protracted battle with the DEA should be expected, given the 20-year timespan of the marijuana petition. Thus, DEA needs to establish procedures and deadlines for petitions, and petitioners must be prepared to litigate when the DEA stalls.¹³⁵ Second, the petition needs to stress the difference between *hemp* and *marijuana*, and prove specifically that hemp is not “intended for use as a drug.”¹³⁶ Third, the DEA has indicated that a significant obstacle to industrial hemp production is the threat of diversion¹³⁷ of THC-bearing leaf and flower matter. Therefore, a specific program to alleviate this threat must be presented. A possible model is found in the European Union, with strict controls on seed acquisition and specific procedures for determination of THC content.¹³⁸ Finally, all efforts must be focused on using the types of data and argumentation amenable to DEA officials, and must include balanced analysis of all appropriate information following the standards set by the *139 DEA, to preclude the differences of opinion between Judge Young and Administrator Lawn.

4. Executive Order

Another avenue of regulatory change is the issuance of a Presidential Executive Order.¹³⁹ For hemp, such an order could allow for cultivation under stringent conditions to address DEA concerns with diversion. Such orders have the force of law, including preemption of inconsistent state law.¹⁴⁰ Also, while historically Executive Orders were mainly used as administrative tools, more recently they have taken on a more legislative character.¹⁴¹ However, to be valid such orders must arise from a specific grant of authority to the president, under either statute or the United States Constitution.¹⁴² Therefore, the President would have to invoke powers in the Controlled Substances Act, as well as Constitutional authority as Chief Executive over the Attorney General.

Such authority over the Attorney General was exercised after the events in Tiananmen Square in 1989.¹⁴³ Fearing reprisals for Chinese nationals in the United States, President Bush ordered the Attorney General and Secretary of State to suspend immigration laws for five years for potential victims of persecution arising from Tiananmen Square. This order provides evidence that the President has authority to implement laws as necessary to protect foreign nationals. It is not beyond imagination to consider such an order to protect and enhance the livelihood and profitability of American farmers and industries.

One recent Executive Order has mentioned hemp by including it with other fibers in the definition of “food resources.”¹⁴⁴ This is significant because it indicates Presidential recognition of the intended use of hemp as an agricultural commodity, as opposed to marijuana which is intended for use as a drug. With considerable *140 public support, it is possible that this recognition could evolve into a forceful re-interpretation of the FCSA to allow for hemp cultivation for industrial purposes.

Even though an Executive Order concerning hemp is possible, an organized public relations effort will be necessary to sway public opinion enough to influence the President to issue an order allowing for hemp cultivation. Such an effort must include farmers, paper and building materials manufacturers, and timber interests all aligned toward the same goal. The best incentive for such an effort is economic prosperity; other incentives will include environmental and social concerns.

5. Congressional Action

While not very likely, Congress always has the authority to amend or repeal the FCSA or any part of it. Further, the Single Convention allows states to regulate *Cannabis* in any way they see fit. However, the current fixation on prohibition exhibited by the conservative majority in both Houses likely dooms any effort at allowing hemp production by amending the FCSA.

CONCLUSION

Farmers in Oregon and elsewhere in the United States are eager to grow hemp. Already, imports and experimentation are leading the way. First, however, the prohibition on production and possession of raw hemp in force for the last 56 years must be overturned. To do so, the narrow perceptions of agencies, which view marijuana and hemp as indistinguishable, need to be adjusted. Only then will the economic and environmental benefits of hemp production be realized in Oregon.

Footnotes

- aa1 The Authors would like to thank Oregon Natural Resources Council for support during the preparation of this Article.
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- aa1 Computer Tech. Degree, 1973, Control Data Inst.; B.S. History, Magnum Cum Laude, 1992, S. Oregon State College; Arthur S. Taylor Outstanding History Graduate Award, 1992; J.D., 1996, Univ. of Oregon, certificates in Environment & Natural Resources Law, Ocean & Coastal Law; M.S. candidate (1996) Environmental Educ. Studies, S. Oregon State College; currently Legal Assistant, Brian Michaels, attorney at law, Eugene, Oregon.
- 1 UNITED STATES DEPT. OF COMMERCE, BUREAU OF THE CENSUS, CBP-92-39, COUNTY BUSINESS PATTERNS 1992: OREGON 5 (1994). About 8400 of these jobs were in the pulp and paper industry. *Id.*
- 2 An old growth forest is “[a]t least 180-220 years old with moderate to high canopy closure; a multilayered, multispecies canopy dominated by large overstory trees; high incidence of large trees, some with broken tops and other indications of old and decaying wood; numerous large snags; and heavy accumulations of wood, including large logs on the ground.” FOREST ECOSYSTEM MANAGEMENT: AN ECOLOGICAL, ECONOMIC, AND SOCIAL ASSESSMENT. REPORT OF THE FOREST ECOSYSTEM MANAGEMENT ASSESSMENT TEAM, at IX-24 (July 1993).
- 3 *Id.* at II-2 to II-3.
- 4 See, e.g., HEMP TODAY (Ed Rosenthal, ed., 1994). Hemp has also been called the “accelerator of commerce and spreader of wealth and intellect,” 11 ENCYCLOPEDIA BRITANNICA 311 (8th ed. 1856).
- 5 Lyster H. Dewey & Jason L. Merrill, *Hemp Hurds as Paper-Making Material*, United States Dept. of Agriculture, [Bulletin No. 404 \(Oct. 14, 1916\)](#), reprinted in JACK HERER, *THE EMPEROR WEARS NO CLOTHES* (1991) at 5, 20 [hereinafter EMPEROR].
- 6 The distinctions between hemp and marijuana have long been recognized. See Lyster H. Dewey, *Hemp*, *Yearbook of the United States Department of Agriculture* (1913), reprinted in HEMP TODAY, *supra* note 5, at 339; see also Single Convention on Narcotic Drugs, Mar. 30, 1961, art. 22, 18 U.S.T. 1408, 1409, 520 U.N.T.S. 151 (*Cannabis* is defined as “the flowering or fruiting tops of the cannabis plant (*excluding the seeds and leaves when not accompanied by the tops*) . . .”) (emphasis added).
- 7 JACK FRAZIER, *THE GREAT AMERICAN HEMP INDUSTRY* 1 (1991).
- 8 *Id.* at 5.
- 9 See Chris Bennett, et al., *GREEN GOLD THE TREE OF LIFE: MARIJUANA IN MAGIC & RELIGION* (1995).

- 10 David P. West, *Fiber Wars: The Extinction of Kentucky Hemp*, in HEMP TODAY, *supra* note 4, at 5-6.
- 11 An Act for Encouraging the Making [of] Hemp, in VIII *The Statutes at Large, Being a Collection of all the Laws of Virginia*, 363 (William Waller Hening, ed., 1821).
- 12 The Chinese were so cautious in allowing their hemp seeds to leave China that such exports were a capital offense. EMPEROR, *supra* note 5, at 1.
- 13 FRAZIER, *supra* note 7, at 54.
- 14 UNITED STATES CENSUS OFFICE, A COMPENDIUM OF THE NINTH CENSUS at 698-99 (1870).
- 15 UNITED STATES CENSUS OFFICE, A COMPENDIUM OF THE EIGHTH CENSUS at 176-77 (1850).
- 16 *See infra* text accompanying note 49 (discussing retting).
- 17 West, *supra* note 10, at 15-16.
- 18 *New Billion Dollar Crop*, POPULAR MECHANICS, Feb. 1938, at 238, *reprinted in* EMPEROR, *supra* note 5, at 5, 14-16.
- 19 *New Billion Dollar Crop*, POPULAR MECHANICS, Feb. 1938, *reprinted in* EMPEROR, *supra* note 5, at 5, 14-16.
- 20 26 U.S.C. § 4741, *repealed by* Comprehensive Drug Abuse Prevention and Control Act of 1970, tit. III, § 1101(b)(3)(A), 84 Stat. 1292. The political pressure came from Federal drug control agencies, cotton and timber interests, and chemical industries. West, *supra* note 10, at 5, 29-34.
- 21 The Marijuana Tax Act was ultimately held unconstitutional because it violated the 5th Amendment guarantee against self-incrimination. *See Leary v. United States*, 395 U.S. 6 (1969). As an alternative enforcement regime, marijuana was listed as a Schedule I drug, with no beneficial medicinal uses, under the Controlled Substances Act, 21 U.S.C. § 828 (1994); nearly identical language occurs at OR. REV. STAT. §§ 475.005-.999 (1995), *see infra* Part IV.
- 22 *An Act to Impose an Occupational Excise Tax Upon Certain Dealers in Marijuana, to Impose a Transfer Tax Upon Certain Dealings in Marijuana, and to Safeguard the Revenue Therefrom by Registry and Recording, 1937: Hearing on H.R. 6906 Before a Subcomm. of the Senate Comm. on Finance, 75th Cong., 1st Sess. 21 (1937)*, *reprinted in* EMPEROR, *supra* note 5, at 126, 129-30.
- 23 *An Act to Impose an Occupational Excise Tax Upon Certain Dealers in Marijuana, to Impose a Transfer Tax Upon Certain Dealings in Marijuana, and to Safeguard the Revenue Therefrom by Registry and Recording, 1937: Hearing on H.R. 6906 Before a Subcomm. of the Senate Comm. on Finance, 75th Cong., 1st Sess. 21 (1937)*, *reprinted in* EMPEROR, *supra* note 5, at 126, 129-30.
- 24 Most of the world's anti-marijuana legislation is based on the Single Convention on Narcotic Drugs, *supra* note 6, at 1408-19. The reduction in hemp harvests worldwide may be traced to this Convention.
- 25 David Walker, *Can Hemp Save Our Planet?*, in HEMP TODAY, *supra* note 4, at 83, 87. For example, before the Russian revolution, over 2 million acres of hemp were cultivated annually in Russia, as compared to 150,000 currently. S. Hennick et al., *Fiber Hemp in the Ukraine, 1991*, in HEMP TODAY, *supra* note 4, at 261, 261-62. This decrease is due, at least in part, to the anti-marijuana attitude prevalent throughout the world.
- 26 *See generally* HEMP TODAY, *supra* note 4, at 229-96.
- 27 EMPEROR, *supra* note 5, at 29.
- 28 *See* Commission Regulation 619/71 In [Respect of Hemp 1971](#) J.O. (1971). The European Union currently pays about \$340 per acre to farmers who grow hemp; *see* Ed Rosenthal, *Hemp in England*, in HEMP TODAY, *supra* note 4, at 203, 203-05.

- 29 European Union regulations require hemp to be less than 0.3% delta-9 tetrahydrocannabinol; Commission Regulation, 619/71, *supra* note 29, at art. 3(1). Specific methods for testing the crop, Commission Regulation 1164/89 Annex C (1989), and distribution of seed, Commission Regulation 3698/88 (1988), are also required.
- 30 FRAZIER, *supra* note 7, at 1.
- 31 H.M.G. van der Werf, *Fibre Hemp in France*, reprinted in HEMP TODAY, *supra* note 4, at 213.
- 32 Ian Low, *The UK Hemp Project in 1993*, in HEMP TODAY, *supra* note 4, at 209, 209-12. About 1500 acres were planted in 1993.
- 33 Andrew Katelaris, *Australia, Eucalyptus, and Hemp*, in HEMP TODAY, *supra* note 4, at 189, 189-90; *see also Hemp Goes Legal*, THE GOLD COAST BULLETIN, May 17, 1995. The government predicts savings of 1.5 billion Australian dollars annually, attributable to decreased fiber imports for paper mills. Further profits are expected in fabric, oil, grain, fuel, and construction materials.
- 34 *Bi-Weekly Bulletin*, 7 POLICY BRANCH OF AGRICULTURE AND AGREE-FOOD, (Can.) Dec. 16, 1994.
- 35 *See* E.P.M. de Meijer, *Hemp Variations as Pulp Source Researched in the Netherlands*, PULP & PAPER, July 1993, at 41 (a report on government sponsored research in Holland). *See also* Ed Rosenthal, *Hemp in Holland*, in HEMP TODAY, *supra* note 4, at 221.
- 36 *Bi-Weekly Bulletin*, *supra* note 34.
- 37 As one commentator has stated, “[i]f hemp had not been outlawed in 1937, half of the forests in the world would still be where we would like them to be.” Martin Mussell, *ENVIRONMENTAL PROTECTION; Where are all the parents?*, THE OTTAWA CITIZEN, Apr. 20, 1994, at A13.
- 38 Walker, *supra* note 26, at 106.
- 39 CONSORTIUM OF DUKE UNIVERSITY ET AL., PAPER TASK FORCE, NONWOOD PLANT FIBERS AS ALTERNATIVE FIBER SOURCES FOR PAPERMAKING at 17-18 (White Paper No. 13, 1995).
- 40 *Id.*
- 41 *Bi-Weekly Bulletin*, *supra* note 34.
- 42 Walker, *supra* note 25, at 93-94; *see also* John W. Roulac, *The Earth's Premier Renewable Resource (Hemp)*, PULP & PAPER, June 1, 1995, at 156.
- 43 Gertjan van Roekel, Jr., *Hemp Pulp and Paper Production*, in HEMP TODAY, *supra* note 4, at 155, 157-58.
- 44 Roulac, *supra* note 42, at 156.
- 45 Roulac, *supra* note 42, at 156.
- 46 H.M.G. van der Werf, *A Review of the Literature*, in HEMP TODAY, *supra* note 4, at 123, 129-30. When grown for seed, a lower density of seed is used to produce 5-120 plants per square meter. Roulac, *supra* note 44, at 156.
- 47 Walker, *supra* note 25, at 106.
- 48 Hurds are the fluffy, cotton-like fibers found in the core of a hemp stem. These are useful in papermaking material, animal bedding, and packaging material. John T. Birrenbach, *Hemp Paper Production*, in HEMP TODAY, *supra* note 4, at 149, 153.
- 49 John T. Birrenbach, *Hemp Paper Production*, in HEMP TODAY, *supra* note 4, at 152.
- 50 *See* Dewey & Merrill, *supra* note 5.

- 51 Ed Rosenthal, *Hemp Realities*, in HEMP TODAY, *supra* note 4, at 67, 73-74; France Perier, *Isochanvre [Insuhemp] Nature is an Architect!*, reprinted in HEMP TODAY, *supra* note 4, at 403, 403-04.
- 52 Perier, *supra* note 51, at 404.
- 53 A board foot is a piece of wood 12 inches by 12 inches by one inch.
- 54 Interview with Tom Hayward, United States Forest Service Timber Planner, Willamette Nat'l Forest (Mar. 31, 1993).
- 55 While the Clinton Plan has received negative commentary from both environmentalists and the timber industry, it is the currently implemented plan and is likely to remain so for at least a few years. Rescissions Act, Pub. L. No. 104-19, § 2001(d), 109 Stat. 194 (1995).
- 56 *Id.*
- 57 Telephone Interview with William Conde and David Seber, of C&S Specialty Builder's Supply (Apr. 2, 1994). While the great majority of timber harvested in Oregon is Douglas fir, other trees have similar densities, and this estimate is valid across the board.
- 58 van der Werf, *supra* note 31.
- 59 H.M.G. van der Werf, *Fiber Hemp in the Ukraine 1993*, in HEMP TODAY, *supra* note 4, at 279.
- 60 PAPER TASK FORCE, *supra* note 39, at Table 4.
- 61 Linda Ashton, *Growers Seek Answer to Field Burning Problem*, OREGONIAN, Apr. 24, 1991, at B2. Replacing grass seed with hemp would also alleviate the problems associated with annual field burning. Historically, about 165 thousand acres were burned annually; in 1993 this fell to about 50,000 acres. See Kathleen Monje, *Air Inversion Traps Smog, Haze*, OREGONIAN, Sept. 8, 1993, at D8.
- 62 COMPENDIUM, *supra* note 15, at 176.
- 63 Barnaby J. Feder, *Decline in Corn Planting of Nearly 3.5% is Projected*, N.Y. TIMES, Apr. 1, 1993, at D20.
- 64 See, e.g., *Timberwest Forest Ltd. Announces Net Earnings*, PR NEWSWIRE, Apr. 15, 1994, available in LEXIS, News Library, Curnws File.
- 65 *Futures Markets*, N.Y. TIMES, June 30, 1995, at D13.
- 66 Transcript, *Wood Products Demand and the Environment*, Vancouver, B.C., Nov. 13-15, 1991, at 138.
- 67 In the United States, subsidies for below-cost timber sales alone amounted to \$323 million in 1993. Norman Myers, *The Worlds Forests: Need for a Policy Appraisal*, 268 SCIENCE 823 (May 12, 1995).
- 68 van der Werf, *supra* note 31.
- 69 *Bi-Weekly Bulletin*, *supra* note 34.
- 70 A typical fiberboard or paper plant will employ more than a thousand people. With a substantial hemp industry in Oregon, several of these plants are easily foreseeable. Interview with William Conde and David Seber, of C&S Specialty Builders Supply, Harrisburg, Or. (Nov. 30, 1995).
- 71 50% hemp/50% straw paper is imported by Tree Free Copaper, Portland, OR. See, e.g., Stuart Wasserman, *Next Line On Paper*, CHI. TRIB., June 6, 1993 at 7.3.
- 72 C&S Specialty Builders in Harrisburg, Oregon. Mari Kane, *Hemp in the USA*, in HEMP TODAY, *supra* note 4, at 249, 254.
- 73 Pope & Talbot of Halsey, Oregon has been looking into hemp as an alternative for their paper mill. See, e.g., Harry Esteve, *Hemp A New Fiber for Paper*, REGISTER GUARD, Nov. 13, 1993, at 1B.

- 74 The University of Oregon Printing Department has recently begun offering Tree Free Ecopaper as an alternative to tree-based paper. Telephone Interview with Andrea Kratzer, Manager, Campus Copy Center, University of Oregon, Eugene, Oregon.
- 75 See, e.g., Editorial, *Hemp Fiber Worth a Look*, EUGENE REGISTER GUARD, Nov. 22, 1993, at A12.
- 76 Interview with Paul Stanford, President of Tree-Free Ecopaper, marketer of hemp-based paper in Portland, Or. (Nov. 30, 1995).
- 77 Interview with Bill Conde & David Seber, *supra* note 70 (researching use of hemp in production of medium-density fiberboard).
- 78 Walker, *supra* note 25, at 93-94; see also Roulac, *supra* note 42, at 156.
- 79 Interview with Bill Conde & David Seber, *supra* note 70.
- 80 PAPER TASK FORCE, *supra* note 40, at 20.
- 81 PAPER TASK FORCE, *supra* note 40, at 20.
- 82 Even if industrial hemp production becomes legal very soon, technological barriers and market conditions will prolong the time before hemp is widely used by such industries as paper and textiles. To be cost-effective, investment in production facilities requires a strong, steady supply of raw materials, which will take time to create.
- 83 Single Convention on Narcotic Drugs, *supra* note 6, at 1408.
- 84 Single Convention on Narcotic Drugs, *supra* note 6, at 1421 (article 28(2) states “[t]his Convention shall not apply to the cultivation of the cannabis plant exclusively for industrial purposes (fibre and seed) or horticultural purposes.”).
- 85 Single Convention on Narcotic Drugs, *supra* note 6, at 1419 (article 22 states “[w]henever the prevailing conditions in the country or a territory of a Party render the prohibition of the cultivation of . . . the cannabis plant the most suitable measure . . . for protecting the public health and welfare . . . the Party concerned shall prohibit cultivation.”).
- 86 OR. REV. STAT. §§ 475.005-.999 (1995).
- 87 21 U.S.C. §§ 811-971 (1994).
- 88 Except for federal preemption; see *infra* note 118 and accompanying text.
- 89 See *State v. Bailey*, 597 P.2d 1312 (Or. Ct. App. 1979).
- 90 OR. REV. STAT. § 475.035 states:
(1) In arriving at any decision on changes in or addition to classification when changes or additions are proposed by the federal Drug Enforcement Administration or by any other reliable source, the State Board of Pharmacy shall review the scientific knowledge available regarding the substance, its pharmacological effects, patterns of use and misuse, and potential consequences of abuse, and consider the judgment of individuals with training and experience with the substance.
(2) Whenever the board determines that a change in or an addition to the schedule of a controlled substance is justified, the board by rule may order the change and fix the effective date thereof.
OR. REV. STAT. § 689.155 states:
The State Board of Pharmacy shall also have the following responsibilities in regard to medications, drugs, devices and other materials used in this state in the diagnosis, mitigation and treatment or prevention of injury, illness and disease.
...
(5) In conjunction with the regularly constituted law enforcement agencies of this state, enforce all laws of the state which pertain to the practice of pharmacy, the manufacture, production, sale or distribution of drugs, chemicals and poisons, and to their standard of strength and purity.
...
(7) Pursuant to ORS 183.310 to 183.550, make such rules as are necessary and feasible for carrying out . . . ORS 475.005, 475.135 and 475.185, . . . and make rules relating to controlled substances, designated as such pursuant to ORS 475.025 and 475.035.

- 91 OR. REV. STAT. § 475.035(2); OR. ADMIN. R. 855-80-020 (1995) (stating in relevant part: “Pursuant to Or. Rev. Stat. 475.005(6) those drugs and their immediate precursors classified in Schedules I through V under the Federal Controlled Substances Act, 21 U.S.C. Sections 811 to 812 and *as amended by the Board* pursuant to ORS 475.035 are the controlled substances”) (emphasis added, original emphasis deleted); *State v. Fells*, 696 P.2d 564 (Or. Ct. App. 1985) (Oregon has its own standards for classification in schedules).
- 92 OR. REV. STAT. § 475.945 (“(1) The department may adopt rules ... that add substances to those specifically enumerated in ORS 475.940(1) if the substance is a precursor to a controlled substance.”).
- 93 21 U.S.C. § 811.
- 94 OR. REV. STAT. § 475.125(1) states:
Every person who manufactures, delivers or dispenses any controlled substance within this state or who proposes to engage in the manufacture, delivery or dispensing of any controlled substance within this state, must obtain annually a registration issued by the [Oregon Pharmacy B]oard in accordance with its rules.
- 95 OR. REV. STAT. § 475.005(6). *See also* 21 U.S.C. §§ 811, 812; 21 C.F.R. § 1307.11-.15 (1995).
- 96 This ranking occurs:
[i]n the light of “the clear legislative denunciation of traffic in dangerous drugs, and ... the equally clear direction to the appropriate agency to discover and publish the names of drugs that will produce the effects which the legislature has declared to be *dangerous to the public*.” *State v. Long*, 823 P.2d 1031, 1033 (Or. Ct. App. 1992) (emphasis added); *State v. Sargent*, 449 P.2d 845, 847 (Or. 1969).
- 97 OR. ADMIN. R. 855-80-021(3)(p) (1995) (Schedule I); 21 U.S.C. § 802(16); 21 C.F.R. § 1308.11(d)(17), (25) (1994) (listing marijuana and THC in Schedule I).
- 98 *See* OR. REV. STAT. § 475.940; OR. ADMIN. R. 855-80-022(6) (1995) (Schedule II) (1995); OR. REV. STAT. § 475.005 (13)(d) (a substance is a precursor if it is “*intended for use as a component of any article [previously] specified*”) (emphasis added). *See also* *State v. Kast*, 852 P.2d 241, 244 (Or. Ct. App. 1993) (“finding that a drug may include a precursor of an ingredient of a controlled substance *because it is intended for ‘use as a component’ of a recognized drug*”) (emphasis added).
- 99 Although *cannabis sativa* (marijuana) is a substance recognized as a drug in the official United States Pharmacopoeia, official Homeopathic Pharmacopoeia of the United States and other official National Formulary and supplements, those sources only recognize drug related uses of particular substances. None of these sources recognize lamp oil, clothing, rope, or other non-drug related uses of the plant because of the drug focus of these sources. Thus, it is marijuana in its drug character that is recognized in these sources and not those uses specifically excluded from the drug related definition of marijuana.
- 100 OR. REV. STAT. § 475.005(13), which states:
“Drug” means:
(a) Substances recognized as drugs in the official United States Pharmacopoeia, official Homeopathic Pharmacopoeia of the United States or official National Formulary, or any supplement to any of them;
(b) Substances intended for use in the diagnosis, cure, mitigation, treatment or prevention of disease in humans or animals;
(c) Substances (other than food) intended to affect the structure or any function of the body of humans or animals; and
(d) Substances intended for use as a component of any article specified in paragraph (a), (b) or (c) of this subsection; however, the term does not include devices or their components, parts or accessories.
- 101 *Id.*; *Kast*, 852 P.2d at 244.
- 102 *State v. Powell*, 321 P.2d 333, 337 (Or. 1958) (“the purpose of the [UCSA] is not to prohibit any and all use” of a particular substance).
- 103 OR. REV. STAT. § 475.005(19) (“‘production’ includes the manufacture, planting, cultivation, growing or harvesting a controlled substance.”).
- 104 *Id.*

- 105 [OR. REV. STAT. § 475.992\(1\)](#), which states in relevant part: “Except as authorized ... it is *unlawful* for any person to manufacture or deliver a controlled substance” (emphasis added).
- 106 [State v. Neel](#), 493 P.2d 740 (Or. Ct. App. 1972) (defendant must have actual knowledge of the nature of the item); [State v. Farkes](#), 691 P.2d 489 (Or. Ct. App. 1984) (element of mens rea requires knowing manufacture of a controlled substance--drug).
- 107 [OR. REV. STAT. § 475.005\(15\)](#).
- 108 [21 U.S.C. § 802\(16\)](#) (1994). Apparently Oregon adopted the definition verbatim from the federal statute.
- 109 Logically, if not included, these uses would appear to be exemptions to the statutes. However, the DEA refuses to accept this position, claiming a “zero tolerance” policy toward any product that contains any amount of marijuana, which prohibits the recognition of the exceptions within the definition. “*Zero Tolerance*” *Drug Policy and Confiscation of Property: Hearing Before the Subcomm. on Coast Guard and Navigation of the House Comm. on Merchant Marines and Fisheries*, 100th Cong., 2d Sess. 62-66 (1988) (statement of William von Raab, Commissioner of Customs); Letter from Thomas A. Constantine, U.S. Department of Justice Drug Enforcement Administrator, to Peter DeFazio, Oregon Representative, U.S. Congress 1 (June 12, 1995) (“DEA ... has opposed the cultivation of the ... plant determining that it is not in the public interest to allow this growth.”) (on file with author); memorandum from Timothy C. Bladek, attorney, to William J. McNichol & Ronald J. Lane, law firm of Stoel, Rives, Boley, Jones & Grey, Washington, D.C. office 2 (Sept. 27, 1993), *citing* Dr. Mahmoud Elshohly, Professor of Pharmaceuticals, Univ. of Mississippi (“there is a ‘zero tolerance’ for importation of THC”).
- 110 *See* Single Convention on Narcotic Drugs, *supra* note 7, art. 28(1) & (2), [18 U.S.T. 1408, 1419](#) (bifurcating treatment of marijuana: prohibiting drug related products while allowing the manufacture and sale of industrial, non-drug related products).
- 111 Again, the DEA rejects this position.
- 112 *I.e.*, not relying on DEA interpretation which is based on DEA “zero-tolerance” policy instead of the language and intent of the statute.
- 113 It appears that where the hemp seed is itself the end product to be sold, the statute requires sterilization. However, where the hemp seed is used to produce oil or cake the seed need not be sterilized. However, the DEA “zero-tolerance” policy not only rejects this analysis but the DEA flatly rejects the low-THC content seed as a viable compromise which would allow domestic hemp production for non-drug related commercial products.
- 114 Accordingly, the DEA would lack authority to regulate or sanction persons or companies who manufacture non-drug related hemp products domestically.
- 115 *I.e.*, no flowers, leaves, or seeds.
- 116 The UCSA authorizes such petitions following the Oregon Administrative Procedures Act; *see* [OR. REV. STAT. § 475.035\(4\)](#), [OR. REV. STAT. §§ 183.310-.550](#).
- 117 Currently, and not surprisingly, the ODA has no rules whatsoever regarding hemp fiber production.
- 118 [21 U.S.C. § 903](#) (1994):
No provision of this title shall be construed as indicating an intent on the part of Congress to occupy the field in which that provision operates, including criminal penalties, to the exclusion of any State law on the same subject matter which would otherwise be within the authority of the State, *unless there is a positive conflict between that provision of this title and that State law so that the two cannot consistently stand together.*
Id. (emphasis added); *see* 40 Op. Att’y Gen. 253, 255 (Or. 1980) (state scheduling would be preempted to the extent that it is inconsistent with federal controls and prohibitions of the same substance).
- 119 [21 C.F.R. § 1308.04](#) (1994), which states:
Each person who manufactures, packages, repackages, labels, relabels, or distributes under his own label any product (including any compound, mixture, or preparation, diagnostic, reagent, buffer, or biological) *containing any quantity of any controlled substance* (whether such product is itself controlled or is excepted, exempted, or excluded from some or all controls

pursuant to § 1308.21-24 or § 1308.31-32) *shall submit information required* in paragraph (b) of this section for each such product. (emphasis added).

120 [21 C.F.R. § 1307.03 \(1994\)](#) (“Any person may apply for an *exception* to the application of any provision of parts 1301-1308, 1311, 1312, or 1316 of this chapter by filing a written request stating the reasons for such exception.”) (emphasis added).

121 [21 C.F.R. § 1308.23\(a\) \(1994\)](#):
The [DEA] Administrator may, by regulation, *exempt* from the application of all or any part of the Act *any chemical preparation or mixture* containing one or more controlled substances listed in any schedule, which preparation or mixture is *intended for* laboratory, *industrial*, educational, or special research *purposes* and *not for general administration to a human being or other animal*. (emphasis added).

For an exemption by regulation, the industrial hemp manufacturer must show that the product “does not present any *significant potential for abuse*.” [21 C.F.R. § 1308.23\(a\)\(1\), \(2\)](#) (emphasis added). Further, the manufacturer must show “that the narcotic substance cannot be in practice removed” from the product. [21 C.F.R. § 1308.23\(a\)\(2\)](#).

122 [21 C.F.R. § 1308.21\(a\)](#) (exclusion applies to nonnarcotic substances which may lawfully be sold over the counter without a prescription under the Federal Food, Drug, and Cosmetic Act, [21 U.S.C. § 301](#)).

123 [21 U.S.C. § 823\(a\)](#).

124 Ed Rosenthal, *The Hempstead*, in HEMP TODAY, *supra* note 4, at 257.

125 Ed Rosenthal, *The Hempstead*, in HEMP TODAY, *supra* note 4, at 259.

126 *See* S. Hennink et al., *supra* note 25, at 273.

127 [21 U.S.C. § 811\(a\)](#).

128 Even if accepted, the lack of clear distinction between hemp (non-drug) seeds and marijuana (drug) seeds, coupled with DEA interpretations, forces the conclusion that all Cannabis sativa seeds would still remain illegal, thus continuing the status quo. *See, e.g.*, Linda A. Newland, *Searches and Seizures at Sea: Trying to Balance Governmental Interests Against the Fourth Amendment*, 16 TUL. MAR. L.J. 319 (1992) (citing Jon Nordheimer, *Tighter Federal Drug Dragnet Yields Cars, Boats and Protests*, N.Y. TIMES, May 22, 1988, § 1, at 1, 16).

129 *See generally* [47 Fed. Reg. 28,141 \(1982\)](#); [54 Fed. Reg. 53,767 \(1989\)](#); [57 Fed. Reg. 10,499 \(1992\)](#).

130 In the Matter of Marihuana Rescheduling Petition, Docket 86-22, Opinion, Recommended Ruling, and Findings of Fact, and Conclusions of Law, and Decision of Administrative Law Judge [of the DEA], Sept. 6, 1988, *quoted in* Lester Grinspoon, M.D. & James S. Bakalar, J.D., *Marihuana as Medicine: A Plea for Reconsideration*, 273 JAMA 1875, no. 23 (1995).

131 *See generally* [Marijuana Scheduling Petition; Denial of Petition](#), [54 Fed. Reg. 53,767 \(1989\)](#).

132 “It is true that we do not have studies controlled according to the standards required by the FDA - chiefly because legal, bureaucratic, and financial obstacles are constantly put in the way.” Grinspoon & Bakalar, *supra* note 130, at 1875.

133 Denial of Petition, *supra* note 131, at 53,782-84.

134 [Marijuana Scheduling Petition; Denial of Petition; Remand](#), [57 Fed. Reg. 10,499 \(1992\)](#).

135 Petitions for rulemaking have been problematic in other areas, with agency recalcitrance often the norm. “Under our system of government the very legitimacy of general policymaking performed by unelected administrators depends in no small part upon the openness, accessibility, and amenability of these officials to the needs and ideas of the public from whom their ultimate authority derives and upon whom their commands must fall.” Improvement of the petition processes can facilitate, and thereby encourage, further use of this mechanism for influencing the content of regulatory agendas and ensure an opportunity for meaningful public involvement in the policy making process.

William V. Luneburg, *Petitioning Federal Agencies for Rulemaking: An Overview of Administrative and Judicial Practice and Some Recommendations for Improvement*, 1988 WIS. L. REV. 1, 63 (1988) (quoting *Sierra Club v. Costle*, 657 F.2d 298, 400-01 (D.C. Cir. 1981)).

136 *See supra* text accompanying notes 94-100.

137 *See* Letter from Thomas A. Constantine, *supra* note 110, at 2. Diversion, in this context, is used to indicate the removal of the material out of the industrial hemp production stream and into the flow of drug trafficking.

138 *See supra* note 29 and accompanying text.

139 Executive Orders have covered an ever-widening variety of subject matter, including industrial output during war, enforcement of civil rights, and even a full freeze on wages and prices throughout the United States. *See* Stephen Ostrow, Note, *Enforcing Executive Orders: Judicial Review of Agency Action under the Administrative Procedure Act*, 55 GEO. WASH. L. REV. 659, 660 n.4 (1987).

140 *Id.* at 660-61.

141 *Id.* at 660.

142 *Youngstown Sheet and Tube Co. v. Sawyer*, 343 U.S. 579, 585 (1952).

143 Exec. Order No. 12,711, 55 Fed. Reg. 13,897 (1990).

144 Exec. Order No. 12,919, 59 Fed. Reg. 29,525, 29,532 (1994).

11 JENVLL 119