



MEMORANDUM

Date: March 14, 2019

To: The Honorable Chairman and Members
Pima County Board of Supervisors

From: C.H. Huckelberry
County Administrator 

Re: **March 12, 2019 Memorandum from the Planning Official Regarding a Request to Initiate a Zoning Code Text Amendment Related to Industrial Hemp Cultivation**

For your information, I have attached information related to a citizen's request to the Planning and Zoning Commission to initiate regulations related to the production of industrial hemp and the cultivation of same.

In summary, industrial hemp is a crop, and although not explicitly exempt from zoning as an agricultural use like every other crop, zoning is not the appropriate regulatory tool. Therefore, the request to use land use (Zoning Title 18) regulation is the incorrect vehicle at this time to pursue regarding restricting the physical location of industrial hemp cultivation to keep such cultivation from cross-pollinating with medical marijuana.

The appropriate agency to regulate hemp is the Arizona Department of Agriculture and no further action will be taken on this request.

CHH/anc

Attachment

c: Carmine DeBonis, Jr., Deputy County Administrator for Public Works
Carla Blackwell, Director, Development Services
Chris Poirier, Planning Official, Development Services



MEMORANDUM

DATE: March 12, 2019

TO: C.H. Huckelberry, County Administrator

FROM: Chris Poirier, Planning Official

SUBJECT: Private Individual Request for a Zoning Code Text Amendment Related to Industrial Hemp Cultivation

At their February 27, 2019 meeting, the Pima County Planning and Zoning Commission heard a request from Timothy A. La Sota PLC, representing Amado Management LLC, to initiate the process of amending the Pima County Zoning Code to add regulations for growing "Industrial Hemp" specifically to disallow any industrial hemp cultivation within 10 miles of an existing medical marijuana dispensary offsite cultivation location. Amado Management LLC owns a medical marijuana cultivation site one mile south of the Santa Cruz/Pima County border. Their argument for the regulation is based on the potential for cross-pollination ruining the respective crops (Attachment 1).

Background

In 2018, the federal farm bill legalized industrial hemp and differentiated it from marijuana. The term "industrial hemp" includes the plant *Cannabis sativa L.* and any part or derivative of such plant, including seeds of such plant, whether growing or not, that is used exclusively for industrial purposes (fiber and seed) with a tetrahydrocannabinols (THC) concentration of not more than 0.3 percent. Also in 2018, Arizona passed a law allowing industrial hemp and authorizing the Arizona Department of Agriculture (AZDA) to oversee a licensing and compliance program for industrial hemp growers, harvesters, transporters, and processors. The Department has appointed an advisory committee to develop the rules for licensing and compliance by August 2019. Subsequent legislation has moved the effective date to May 2019.

Mr. La Sota's submittal (Attachment 1) explains the applicant's reasoning for the proposed zoning regulations, including why the applicant believes industrial hemp is not "agriculture" and therefore not exempt from zoning requirements, and why the applicant believes Proposition 207 is not applicable to the proposed regulations.

Section 18.01.070(B)(1) (code amendment procedures) of the Zoning Code states:

The board of supervisors or the planning and zoning commission is responsible for the initiation of code amendments, and may hear requests for the same from private individuals who have submitted evidence that public benefit would result from such amendment...

In accordance with the Zoning Code, the request to initiate a text amendment was presented to the Planning and Zoning Commission.

Summary of Planning and Zoning Commission Hearing

The applicant explained the cross-pollination threat, adding that it is the subject of a recent Forbes article. He compared it to field and sweet corn cross-pollination. The applicant stated there is going to be a sort of "gold rush" with hemp production and they want to get ahead of the "rush" before hemp growing becomes legal and set back requirements become a potential "takings" threat. He said pollen can travel up to 30 miles but a 10-mile setback is a reasonable compromise. He commented that this is all new, and that there is not a lot of data because both crops were not previously allowed. He said this is an appropriate use of zoning to separate two incompatible uses.

A commissioner asked how field and sweet corn producers sorted out the problem. The applicant said that it was probably a long, bitter process which is why they want to be preventative. He said they wanted the preventative setback regulation put in the state legislation that moved the approval date from August to May, but the legislature maintained it is a local issue. A commissioner noted that the legislation (SB 1098) states industrial hemp is an agricultural product. There was discussion about the agricultural exemption issue. Staff noted that zoning may not be the right venue.

A commissioner asked whether zoning is the only way to address this issue. Staff stated that crop farmers have dealt with this issue other ways and questioned the "public benefits" of the requested amendment. Staff said the applicant could work with the agricultural rules committee as hemp is required to comply with the Department of Agriculture. Another commissioner asked about staff's concerns. Staff indicated that this is an unprecedented type of buffer in Pima County and that it's like picking one industry over another. Staff noted that text amendments are usually based on comprehensive plan policies or a high number of board of adjustment variances for a particular code provision, and that staff would not have brought this amendment forward if not requested by the applicant.

The applicant provided further input and stated that marijuana, including hemp, is not covered by an agricultural exemption and the Department of Agriculture rules committee is not interested in addressing this setback issue. He added that Pima County would not be the first to pass such a regulation, that the Town of Snowflake passed one. A commissioner asked if hemp can be grown in Pima County after the State approval date. The applicant said it is his personal opinion that the zoning code needs to be revised to allow hemp because the code says if something is not stated, it is not allowed. Staff stated that they do not share that view, and that hemp would be allowed under the category of crops. Staff also indicated that once the Department of Agriculture rules committee finishes their work, staff will review whether the zoning code needs to be amended. The idea of "getting ahead" of the legalization of hemp before the State adopts rules is problematic. Doing so may lead to under- or over-regulating and then having to go back and revise the code once State rules are enacted. This occurred with medical marijuana is regulated by the Department of Health.

The applicant stated that his grow facility provides "public benefits" as it is a \$16 million investment providing 150 jobs and serving many medical marijuana patients in Tucson. The owner commented that if he lost a fraction of crop it would wipe them out because they operate on a thin margin. He said that lawsuits are starting to pop up, noting Oregon as an example. He indicated the cross-pollination is a problem for both industries, but whoever got there first should be

protected. The applicant commented that there will be a big rush to the finish line and asked for caution and thought.

There was further discussion by the Commission about whether hemp was an agricultural crop and if zoning was the appropriate means to address the issue. A commissioner said this issue is worthy of discussion at the Board of Supervisors level. Another commissioner said the issue needed to be discussed in more detail with draft language to review.

The commission's motion to approve the initiation failed by a vote of 2-4 and was therefore denied. Given the Commission's vote and their interest in Board of Supervisors' input, the topic is being forwarded for your consideration and direction.

If the request is heard by the board and the board chooses to initiate the applicant's text amendment, it would then undergo the standard drafting and formatting of language, review by stakeholders, and public hearings by the Planning and Zoning Commission and the Board of Supervisors. Initiation would not bind the board to an approval.

Staff Recommendation

Staff recommends that the board not initiate the amendment as Title 18 Zoning, is not the appropriate regulatory tool to regulate a crop. The Arizona Department of Agriculture is the appropriate agency to regulate hemp as envisioned by the legislators who approved the bill and re-enforced by the 2018 Federal Farm Bill (excerpt from AZDA website below):

- The Arizona Department of Agriculture will still retain primary oversight of a licensing and compliance program
- Growers, harvesters, transporters and processors are still required to be licensed by the Department
- Allows for the commercialization of industrial hemp
- Allows for the interstate shipment of industrial hemp under the provisions of a licensing program
- Crops are eligible for USDA-FSA crop insurance
- Future USDA grant opportunities

Although sympathetic to the applicant's request, staff cannot conclude that the public would benefit from such an amendment that is essentially choosing one industry over another. The applicant should continue to work with the AZDA for an appropriate remedy.

The Development Services Department can re-evaluate the amendment initiation request after the Arizona Department of Agriculture Industrial Hemp Program Rules Committee completes the rules making (prior to May 31, 2019) to determine whether further action is needed.



MEMORANDUM

DATE: February 19, 2019
TO: Chair and Members of the Planning and Zoning Commission
FROM: Chris Poirier, Planning Official
SUBJECT: Request for Zoning Code Text Amendment Initiation

Timothy A. La Sota PLC, representing Amado Management LLC, requests that the Planning and Zoning Commission initiate the process of amending the Pima County Zoning Code to add regulations for growing "Industrial Hemp" (refer to Attachment 1 for the applicant's request). As proposed by the applicant, the regulations would disallow any industrial hemp cultivation within 10 miles of an existing medical marijuana dispensary offsite cultivation location. Amado Management LLC owns a medical marijuana cultivation site one mile south of the Santa Cruz/Pima County border. Their argument for the regulation is based on the potential for cross-pollination ruining the respective crops.

In 2018, the federal farm bill legalized industrial hemp and differentiated it from marijuana. The term "industrial hemp" includes the plant *Cannabis sativa* L. and any part or derivative of such plant, including seeds of such plant, whether growing or not, that is used exclusively for industrial purposes (fiber and seed) with a tetrahydrocannabinols (THC) concentration of not more than 0.3 percent. Also in 2018, Arizona passed a law allowing industrial hemp and authorizing the Arizona Department of Agriculture to oversee a licensing and compliance program for industrial hemp growers, harvesters, transporters, and processors. The Department has appointed an advisory committee to develop the rules for licensing and compliance by August 2019.

Mr. La Sota's submittal (Attachment 1) explains the applicant's reasoning for the proposed zoning regulations, why the applicant believes industrial hemp is not "agriculture" and therefore not exempt from zoning requirements, and why the applicant believes Proposition 207 is not applicable to the proposed regulations.

Section 18.01.070(B)(1) (code amendment procedures) of the Zoning Code states:

The board of supervisors or the planning and zoning commission is responsible for the initiation of code amendments, and may hear requests for the same from private individuals who have submitted evidence that public benefit would result from such amendment...

If the Commission chooses to initiate the applicant's text amendment, it would then undergo the standard drafting and formatting of language, review by stakeholders, and public hearings by the Planning and Zoning Commission and the Board of Supervisors.

Timothy A. La Sota, PLLC
2198 East Camelback, Suite 305
Phoenix, Arizona 85016
P 602-515-2649
tim@timlasota.com

January 16, 2018

VIA HAND DELIVERY TO:

Pima County Board of Supervisors
Pima County Planning and Zoning Commissioners
Pima County Development Services
130 West Congress Street
Tucson, Arizona 85701

Re: Land use regulations on Industrial Hemp

Dear Honorable Supervisors, Commissioners and Planning Staff:

This firm represents Amado Management, LLC, (“Amado”) which operates a medical marijuana grow facility that is licensed by the state of Arizona. Amado Management, LLC operates this facility in Amado, Arizona, in Santa Cruz County but less than one mile from the Pima-Santa Cruz County border.

I write to you regarding possible zoning changes that Pima County may make to accommodate newly legalized industrial hemp, and to propose a text amendment that would protect both marijuana and industrial hemp crops. The proposed text amendment is attached as Exhibit 1.

This firm is submitting this proposal letter on behalf of Amado in making an official request for a Text Amendment Change for the reasons outlined in this letter.

Background

In 2018 the State of Arizona legalized industrial hemp through the passage of Senate Bill 1098. Senate Bill, which takes effect on August 3, 2019, permits the growth and production of industrial hemp, which previously had been illegal. While the law will permit industrial hemp in August of 2019, it does so with significant regulations.

Industrial hemp and marijuana simply cannot be grown in close proximity to each other. These agricultural products are very closely related, appear identical, and are from

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the same genus, *cannabis*, and in fact same sub-genus, *cannabis sativa*. As such, it is not at all surprising that the two plants easily cross pollinate the other plant. Cross pollination effectively destroys the economic value of both plants—the medicinal properties of the marijuana are lost, and various properties of industrial hemp are also lost.

Medical marijuana is produced from a certain part of the marijuana plant, and only produced from female marijuana plants. The THC, which is the active ingredient in medical marijuana and produces the beneficial medicinal effects, comes from the “flower” of the marijuana plant. In a natural environment, male plants would pollinate female plants and produce seeds which could be planted and would grow into marijuana plants. However, commercial marijuana grows rely on “clippings” of marijuana plants for reproduction, and spend large amounts of resources to produce an environment in which pollination can be avoided altogether, as pollination creates seeds, this decreases the medicinal value of the individual plants.

Cross pollination, and the risks from it, are hardly unique to hemp. One other example is sweet corn, which is grown for human consumption, and field corn, which is grown for animal consumption. If the two cross-pollinate, the animals end up feasting on tasty sweet corn, and the humans end up with hard, tasteless field corn. As the North Carolina State University agricultural cooperative extension puts it, “a cross between field corn and sweet corn would give tougher, less sweet ears”.

<https://macon.ces.ncsu.edu/vegetablecross/> Actually, if sweet corn is cross pollinated by field corn the sweet corn simply cannot be sold, as people will not buy it.

Appropriate growing spaces and seasons have been developed with other crops through decades and even centuries of often bitter experience. Hemp is relatively new as a product that can be grown legally, on a large scale. That is why it is important to take a cautious approach in addressing new hemp grows.

There is already a considerable amount of research that confirms how marijuana and hemp, as closely related species, easily cross pollinate. Hemp pollen has been know travel for tens of miles. <https://wholeplanttechnologies.com/hemp-cross-pollination-growing-cannabis-outdoors/>. The exact distance for a particular area depends on wind speeds. *Id.* A number of other studies confirm this, and these additional materials are also attached to this letter. (Exhibit 2).

In short, the potential for cross pollination of hemp plants and marijuana plants is inescapable if hemp is permitted to be grown in proximity to marijuana. And cross pollination effectively renders marijuana plants useless in terms of providing the medicinal benefit that are raised legally for under Arizona law. Cross pollination must be avoided. Even though our facility is just inside the border of Santa Cruz County, because

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of the distance that hemp pollen can travel, land use matters in Pima County, as well as Santa Cruz County, are important to us.

To avert problems along these lines, we have recommended that any new hemp growing occur at least ten miles away from existing marijuana grows. The Town of Snowflake, Arizona, which has seen significant investment in medical marijuana facilities (just as many other areas in the state have), has acted to protect existing uses. We recommend that Pima County adopt a similar ordinance. As Joy Beckerman, who is the president of Hemp Ace International and president of the Washington chapter of the Hemp Industries Association, a longtime hemp advocate and preeminent expert on the cross pollination issue states, "Ten miles Folks. Ten Miles!"
<https://www.marijuanaventure.com/myths-realities-hemp-cross-pollination/>

It is possible that with experience, or advances in technology, we will discover that zoning restrictions can be lessened and still protect both crops from cross-pollination. However, because the County has a unique opportunity now, a blank canvass so to speak, it is important that a cautious approach be taken. Once hemp farming begins, growers will have vested rights to continue their agricultural activities, and the County may lose the opportunity to impose regulations that protect both crops, at least without effecting an expensive taking of private property rights. In other words, the County can always lessen land use regulations, but tightening them is much more difficult. I discuss the legal aspects, including why the County has the regulatory power to impose a ten mile buffer zone, in further detail below.

Pima County's current Zoning Code

In its current state, the Pima County Zoning Code does not appear to even mention hemp. This is understandable given that hemp growth has been illegal prior to the enactment of Senate Bill 1098. But because this use is not explicitly permitted anywhere in the Pima County Zoning Code, regardless of whether it is permitted by state law, hemp farming currently could not be done legally in Pima County.

Some public officials across the state have raised a concern about the legality of instituting a set back that bars hemp farms within a ten mile radius of existing marijuana grows. While it is admirable for public officials to be vigilant in protecting property rights, these concerns are actually unfounded. The County has wide latitude in crafting an ordinance that provides protection for existing, legal marijuana uses. I hope that you will agree with this based on the legal analysis in this letter.

The Legal ability of Pima County to provide for appropriate setbacks

Like the zoning codes of a number of other municipalities and counties, Pima County's Zoning Code contains a provision that effectively states that anything that is not

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explicitly permitted under the Code is **not** permitted. Specifically, Pima County Zoning Code Section 18.01.030(B)(3) states:

No building shall be erected and no existing building shall be moved, altered, added to or enlarged, nor shall any land, building or premises be used, designed or intended to be used for any purpose or in any manner other than a use listed in this code, or amendments thereto, as permitted in the zone in which such land, building or premises is located...

As it now stands, no property owner in Pima County enjoys rights to conduct hemp farming.

Proposition 207, passed by Arizona voters at the 2006 general election, is often raised as a bar to certain governmental land use changes. It is true that Proposition 207 subjects governmental entities to significant liability if they make certain land use changes. However, it is also clear that Proposition 207 has no application in this context. Arizona Revised Statutes Section 12-1134(A), which is the statutory codification of Proposition 207, states:

If the existing rights to use, divide, sell or possess private real property are reduced by the enactment or applicability of any land use law... the owner is entitled to just compensation from this state or the political subdivision of this state that enacted the land use law.

Clearly Proposition 207 is only implicated by a reduction in existing rights, and as no rights currently exist, it is not applicable.

Nor are there any concerns with vested rights under traditional land use law that predates Proposition 207. Vested rights are land use rights that cannot be taken away governmental entity without providing the owner compensation. But there are no vested rights here, as no permits have been issued and there is no lawful nonconforming use. *See, e.g., Rotter v. Coconino County*, 818 P.2d 704, 707, 169 Ariz. 269, 272 (1991)(discussing vested rights to continue a lawful nonconforming use on a piece of property); *Burroughs v. Town of Paradise Valley*, 724 P.2d 1239, 1240, 150 Ariz. 570, 571 (App. 1986)(discussing the existence of vested rights in the context of special use and building permits issued by governmental entities).

Ensuring that land uses are mutually compatible lies at the heart of the whole concept of zoning laws. No less an authority than the United States Supreme Court has put it this way:

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Whether driven by a concern for health and safety, esthetics, or other public values, zoning provides the mechanism by which the polity ensures that neighboring uses of land are not mutually-or more often unilaterally-destructive.

Brendale v. Confederated Tribes and Bands of Yakima Indian Nation, 109 S.Ct. 2994, 3009–10, 492 U.S. 408, 433 (1989)(emphasis added).

In the case of industrial hemp growth, it would be “unilaterally destructive” if it is permitted to be located next to marijuana growths. As such, the County is well within its powers to pass an ordinance that will not allow that to happen.

In addition, if there is any concern about unlawfully zoning out a particular use such as hemp farming, that possibility is foreclosed here because of the legitimate interests the County has in protecting existing uses from new land uses that are “destructive.” *Id.* In addition, this type of zoning out concern could be raised in the context of a smaller geographical area such as a municipality. But in a county the size of Pima County, the chances of excluding a particular use are very small.

In addition, any person would remain free to seek a variance, which would be an area variance grantable by a Board of Adjustment under *Pawn 1st, LLC v. City of Phoenix*, 399 P.3d 94, 100, 242 Ariz. 547, 553 (2017). Any concern about zoning out a use is highly speculative. Until there is something that demonstrates that this is a real issue, it should not prevent the County from acting.

Lastly, but perhaps most importantly, the County now has broad authority to impose land use restrictions, but that will not always be the case. Once hemp is permitted, vested rights develop, and the County will have far lesser power to impose restrictions. It is important that the County gets this issue right now, as it may not have an opportunity to “fix” it down the road. That also amplifies the need to proceed cautiously, and to start out with a buffer zone that gives the County the necessary flexibility to make changes if such are warranted in the future. An inadequate buffer zone will be difficult to enlarge—it would be much easier to narrow a larger buffer zone.

The So-Called “Ag Exemption” does not apply as state law treats hemp in the same manner as it does marijuana, and the County is free to impose land use restrictions

Other officials have raised concerns that counties may be limited in the actions they can take because of the so-called “Ag Exemption”. The Ag Exemption imposes

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restrictions on a county's ability to zone in regard to agricultural uses on certain properties, but a look at the applicable law shows that the Ag Exemption clearly does not apply.

The Ag Exemption is codified at A.R.S. Section 11-812. Specifically, this provision states:

A. Nothing contained in any ordinance authorized by this chapter shall:

...

2. Prevent, restrict or otherwise regulate the use or occupation of land or improvements for railroad, mining, metallurgical, grazing or general agricultural purposes, if the tract concerned is five or more contiguous commercial acres. For the purposes of this paragraph, general agricultural purposes do not include the cultivation of cannabis as defined in section 13-3401 or marijuana as defined in section 13-3401 or 36-2801....

(Emphasis added.)

In other words, cannabis and marijuana cultivation do not qualify as "general agricultural purposes", and do not fall into the Ag Exemption, and thus a county, including Pima County, remains free to subject such uses to their general zoning powers, unencumbered by the Ag Exemption.

The key issue becomes the statutory definition of cannabis under A.R.S. Section 13-3401 and marijuana under A.R.S. Sections 13-3401 and 36-2801. Because A.R.S. Section 11-812 uses the word "or", any use that meets the definition of cannabis under A.R.S. Section 13-3401 or marijuana under A.R.S. Sections 13-3401 or 36-2801 is subject to zoning and does not fall into the Ag Exemption.

A.R.S. Section 36-2801 defines marijuana very broadly, and certainly broadly enough to include industrial hemp: "In this chapter, unless the context otherwise requires... 'Marijuana' means all parts of any plant of the genus cannabis whether growing or not, and the seeds of such plant."

(Emphasis added).

While the other definitions are narrower in that they exclude "the mature stalks of" the plants, these definitions would still apply to the cultivation of industrial hemp before the hemp grows into mature stalks. Those definitions, of cannabis and marijuana under A.R.S. Section 13-3401, are as follows:

In this chapter, unless the context otherwise requires:

"4. "Cannabis" means the following substances under whatever names they may be designated:

(a) The resin extracted from any part of a plant of the genus cannabis, and every compound, manufacture, salt, derivative, mixture or preparation of such plant, its seeds or its resin. Cannabis does not include oil or cake made from the seeds of such plant, any fiber, compound, manufacture, salt, derivative, mixture or preparation of the mature stalks of such plant except the resin extracted from the stalks or any fiber, oil or cake or the sterilized seed of such plant which is incapable of germination.

(b) Every compound, manufacture, salt, derivative, mixture or preparation of such resin or tetrahydrocannabinol.

....

19. "Marijuana" means all parts of any plant of the genus cannabis, from which the resin has not been extracted, whether growing or not, and the seeds of such plant. Marijuana does not include the mature stalks of such plant or the sterilized seed of such plant which is incapable of germination."

The definition of cannabis under A.R.S. Section 13-3401, and the definition of marijuana under A.R.S. Sections 13-3401 and 36-2801 (especially this definition) are broad, and include industrial hemp, as industrial hemp is under the genus cannabis, regardless of its THC content. Even though industrial hemp meets all three statutory definitions, it need only meet one to fall outside of the Ag Exemption.

In summary, the Ag Exemption does not apply to industrial hemp cultivation, just as it does not apply to marijuana cultivation, and counties remain free to apply their regular zoning powers to such use.

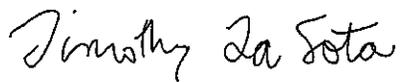
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Conclusion

The legalization of industrial hemp creates the possibility for the development of an exciting new market here in Arizona, and we certainly applaud the opening of this new agricultural use. At the same time, if proper provisions are not made for the conduct of this industry, it poses a significant threat to marijuana grows and hemp grows alike. We ask that you take action to ensure that land uses are compatible and that one use is not permitted to destroy another already existing use.

Very truly yours,

TIMOTHY A. LA SOTA PLC



Timothy A. La Sota

EXHIBIT 1

**IT IS ORDAINED BY THE BOARD OF SUPERVISORS OF PIMA COUNTY,
ARIZONA AS FOLLOWS:**

SECTION 1. Pima County Zoning Code Title 8 is amended by adding Chapter 8.90 as follows:

Chapter 8.90 – INDUSTRIAL HEMP

8.90.010 - Purpose and scope.

To protect the public health, to the extent practicable, and to ensure that industrial hemp uses are consistent with existing land uses.

8.90.020 - Definitions.

The terms, words, and phrases used in this ordinance have the same definitions given them in Title 3, chapter 2, Article 4.1, Arizona Revised Statutes.

8.90.030 – Industrial Hemp Sites where industrial hemp is grown.

Industrial Hemp Sites where industrial hemp is grown are subject to the following conditions and limitations:

A. Any person or entity who shall obtain a conditional use permit as provided in the Pima County Zoning Code before engaging in the growing, cultivation or processing of industrial hemp. Any applicant for such a conditional use permit shall provide:

1.A copy of the License issued by the Department of Agriculture which authorizes the operation of an Industrial Hemp Site.

2.A map showing the location of all medical marijuana cultivation locations within ten (10) miles of the proposed Industrial Hemp Site

B. Industrial Hemp Sites may be permitted as a conditional use in RH, GR-1, CB-2, zoning districts.

C. Shall not be located within ten (10) miles of a medical marijuana cultivation location. This distance shall be measured as a straight line, without regard for intervening structures or jurisdictional boundaries, from the lot line of the property on which the Industrial Hemp Site is proposed to be conducted to the nearest lot line of the medical marijuana cultivation location.

D. Shall not be located within five hundred feet (500') of a residentially zoned property. This distance shall be measured from the lot line of the property in which the cultivation is conducted or proposed to be conducted to the property boundary line of the residentially zoned property.

E. Shall not be located within one thousand feet (1,000') of a preschool, kindergarten, elementary, secondary or high school, place of worship, public park, public cemetery, or community center. This distance shall be measured from the lot line of the property in which the cultivation is conducted or proposed to be conducted to the property line of the protected use.

8.80.040 - Applicability.

The provisions of this chapter apply to the unincorporated areas of the county.

SECTION 2. Pima County Zoning Code Chapter 18.13 - RH Rural Homestead zone is amended as follows:

Chapter 18.13 – RH RURAL HOMESTEAD ZONE

...

18.13.030 – Conditional Uses.

B. Uses conditionally permitted:

....

36. Industrial hemp site.

37. Other conditional uses:....

SECTION 3. Pima County Zoning Code Chapter 18.14 - GR-1 Rural Residential Zone is amended as follows:

Chapter 18.14 - GR-1 RURAL RESIDENTIAL ZONE

...

18.14.030 – Conditional Uses.

...

B. Uses conditionally permitted:

...

23. Industrial hemp site.

24. Other conditional uses:....

SECTION 4. Pima County Zoning Code Chapter 18.45 – CB-2 General Business Zone is amended as follows:

Chapter 18.45 – CB-2 GENERAL BUSINESS ZONE

...

18.45.040 – Conditional Uses.

...

G. Non-Chartered Financial Institutions, provided: . . .

H. Industrial hemp site.

SECTION 5. This ordinance is effective 30 days after its adoption.

EXHIBIT 2

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Will Hemp Farms Ruin Cannabis Crops?

By Evan Kaden
November 19, 2016



For those who call Colorado, Oregon and Washington home, growing cannabis outdoors has become the norm. And in most cases, these growers couldn't be happier with the quality of the bud that bloomed from soil and sunshine.

After marijuana was made legal in Colorado and Washington in 2012, many green thumb enthusiasts jumped on the chance to grow their plants outdoors. Soon people in Oregon were doing the same, and outdoor growing quickly became part of the norm. Marijuana though, as it would soon turn out, wasn't the only thing wasn't the only kind of cannabis plant that would be legal to grow.

In 2014, hemp once again became rooted in U.S. soil after the 2014 federal farm bill was passed. Colorado, Kentucky and Vermont all planted the first hemp farms the country has seen since shortly after World War II, and by 2015 hemp was being grown (somewhat) freely in several different states. While Colorado's at the forefront of most things marijuana related (hemp cultivation included), Washington and Oregon also provide some great outdoor growing conditions with hemp fields increasingly become more common than ever before.

While hemp is amazing for many different things and the seeds are packed full of essential fatty acids and proteins, there happens to be something hemp isn't so good for. Cross-pollination from hemp seeds has several outdoor marijuana growers concerned that pollen from hemp is ruining their crops. Here's why.



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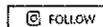
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When hemp is grown outdoors and male plants are left to release pollen, this pollen is going to travel. And it's going to travel far ... sometimes distances up to hundreds of miles. And when it comes to hemp pollen travelling through hemp and marijuana friendly states like dust in the wind, female marijuana plants nowhere near these hemp farms are beginning to see the repercussions.

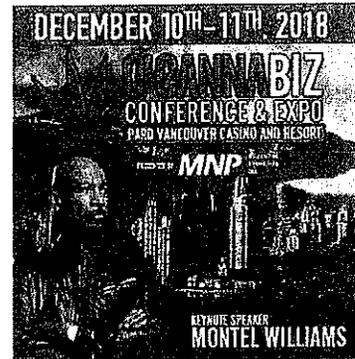
You might be wondering what could be so bad about a little hemp pollination on a marijuana plant. Aren't they the same thing? Not so much. While they're a part of the same family, hemp and cannabis are more like cousins than brother and sister. See, hemp can't get you high and is mainly grown for its high CBD content or industrial products. Its pollen however can destroy the marijuana plants that contain genetics with high levels of THC, many that have been developed for decades.

If there's one thing cannabis cultivators are famous for, it's the high quality, THC-packed, seedless buds that are the final product of their labor. Pollination from hemp plants however, can quickly put this to an end to the sticky, seedless bud so many cannabis connoisseurs have become accustomed to.



It's already happened in Canada and other countries where both hemp and marijuana are grown, and is a concern to growers in the U.S. There are marijuana growers in southern Oregon that want to ban industrial hemp production in the region completely out of fear that hemp will cross pollinate their cannabis crops and make them useless.

This is something that hemp farmers are aware of, yet it doesn't stop them from planting fields of hemp that can potentially damage cannabis crops. There are some farmers that have said that the pollen from hemp plants can ruin up to a half crop of cannabis plants in the first generation. And by the third generation, these cannabis crops will be a little similar to the THC-laden plants they once were.



...and cannabis growers, may pose a serious problem, according to one grower. "This year's harvest has rendered to be the worst he's seen as far as seeds showing up in his plants are concerned... and he's been growing outdoors for years. Before hemp was planted some 30 miles away last year, he might find a seed or two for every pound of dried flower. This year he's finding 5-10 seeds for almost every ounce being harvested."

SEARCH

According to international hemp expert Andrea Hermann, "marijuana and industrial hemp don't belong in cultivation together" and that "there's a risk for marijuana growers when industrial hemp is grown with male plants present," she said in an interview with The Cannabisist. Those that

grow hemp through the most sophisticated of filtration systems. And many outdoor growers grow outdoors don't want (or have the means to) to rig up some fancy indoor grow room just because there's a hemp farm nearby.

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As cannabis becomes more common and hemp closes in quickly behind, it's safe to say that crops will be increasingly affected. We're at the forefront of a long road ahead where outdoor marijuana and hemp production are concerned. Aside from demanding that the hemp industry be allowed to grow only female crops that contain no potential of turning hermaphrodite there isn't much that can be done. And this raises its own questions of this industry that is literally blooming widely throughout several different states becoming controlled by big businesses like Monsanto.

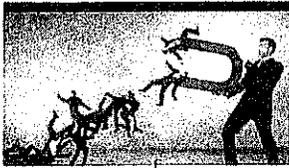
It also raises questions amongst the cannabis community, especially those who have been consuming high-quality cannabis for years. Because after all, whether they're smoking in secret or taking their stash to the streets, no one that's been spoiled with good bud for years wants to find a seed in their sensi.

Evan Kaden is a rare breed of freelance writers who, believe it or not, doesn't drink coffee! Currently serving as a content specialist for Badass Glass, a company specializing in high quality smoking accessories, he's grateful for the opportunities he's had to share his thoughts and stories with people through this crazy place called the Internet.



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What's a safe distance between hemp and marijuana plants?

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PUBLISHED: JUN 18, 2015, 9:16 AM • UPDATED: JUN 18, 2015, 6:01 PM

By [Susan Squibb](#), *The Cannabist Staff*

Welcome to our Ask The Cannabist column. Clearly you have questions about marijuana, be it a legal concern, a health curiosity, a Colorado-centric inquiry or something more far-reaching. Check out our expansive, [100-question Colorado marijuana FAQ first](#), and if you're still curious, email your question to Ask The Cannabist at askthecannabist@gmail.com.

Hey, Cannabist!

What is the risk of pollination between hemp and marijuana? — *Seedy Grower*

Hey, Seedy Grower!

Unintended plant sex can be a real problem for marijuana growers when male pollen is introduced to female-only marijuana plants intended to be grown for their seedless flowers. I spoke with [Anndrea Hermann](#), an international hemp expert, for her opinion on pollination and prevention.

Hermann, who was recently granted a [DEA import/export permit for viable hemp seed](#) into the United States, says via email: "Yes, there is a risk for marijuana growers when industrial hemp is grown with the males present. Marijuana and industrial hemp don't belong in cultivation together."

The Colorado crop

[Watch it grow: How Colorado hemp has evolved from a novelty to an industry with potential](#)

[Surrounded by hemp: Plan to use Colorado crop for building insulation](#)

[Repurposing: Evergreen Nursery space becomes Ambarry Gardens indoor hemp grow](#)

[It's new: Colorado biotech firm ramps up processing plans for hemp by-products to be used as sweeteners, plastics or packaging](#)

[A 2015 report from Oregon Cannabis Connection](#) cited by Hermann covers pollination studies and discusses unwanted pollination. "In three studies, pollen drift was observed across 5 to 12 kilometers (3 to 7.5 miles). A fourth study showed pollen drift for 48 kilometers (30 miles) across the Mediterranean Sea from Morocco to Spain, summarizes Hermann.

We don't have sea winds carrying hemp pollen into Colorado, but it can be windy nonetheless. According to Hermann, a safe starting distance between marijuana and hemp plants is 10 miles. "There is no scientific backing to guarantee that distance, but it is a safe starting point."

In terms of the risk of pollen negatively affecting indoor marijuana grows, filtration is key. Hermann says [HEPA \(high efficiency particulate air\) filters](#) are the primary filter for screening pollen and she recommends consulting a filtration expert to create the necessary system to prevent pollination. Once an adequate filter system is in place, perform necessary maintenance to keep the system optimally operating.

Hemp product reviews

[All things Hemp: Learn about products utilizing the seeds, oil and fiber of this plant — foods, clothing, crafts, health & beauty, pet gear and more](#)

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Good communication between growers is recommended by Hermann. Hemp and marijuana growers in an area need to discuss, create and respect the isolation distance between the two kinds of crops. Hermann points out that this conversation is similar to the isolation between organic and conventional farmers growing in the same area.

It's also a good idea to have clear and enforced employee and visitor policies to prevent pollen contamination from people entering indoor grow rooms. XO

[Read more Ask The Cannabist columns: Selling weed on Craigslist, getting around Denver without driving, vaporizers vs. pipes and other queries](#)



SUSAN SQUIBB

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Susan Squibb, the Cannabis Maven, is a Denver-based freelance cannabis writer and an operations management consultant. She founded and organizes the event, Mother's High Tea. Connect with her on LinkedIn, Twitter and...

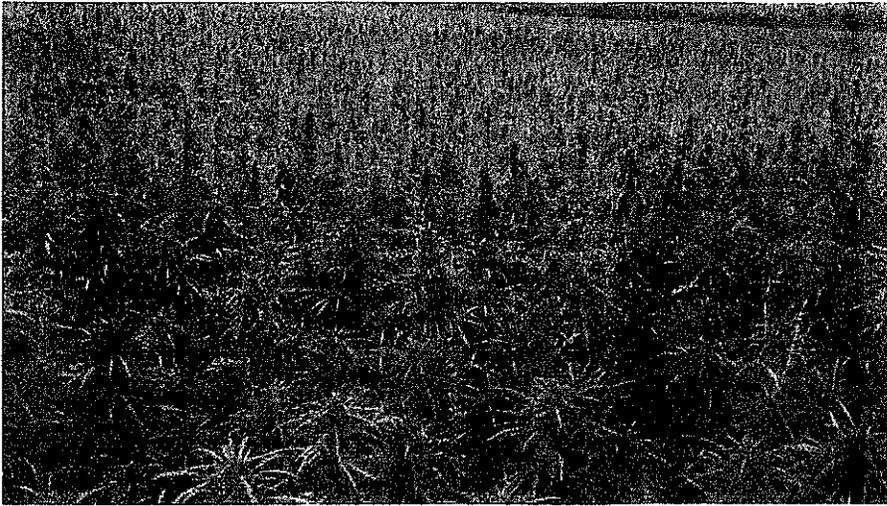
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Oregon Cannabis Appellation Regions: A Proposal

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A solution for unwanted cross-pollination of hemp and marijuana

By Keith Mansur

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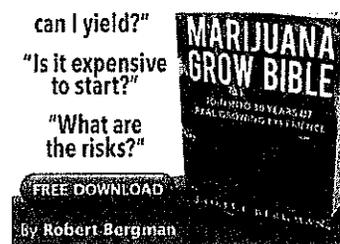
Introduction:

After decades of prohibition, the cultivation of hemp and medical marijuana are now allowed in Oregon. Hemp licenses have been issued and medical marijuana has long been legally grown in the state. Due to the passage of Measure 91 in November 2014, personal cultivation of marijuana will be allowed as of July 1, 2015, and commercial production for the coming retail market will begin. The conflict between marijuana and hemp production is inevitable due to the differing nature of the same species plant and the need to control traits in plants, yields from harvests, and quality of product. The easiest and most effective way to insure both industries can thrive is to create appellate cultivation system, or cannabis appellation regions, in the state.



Overview:

As Oregon enters the cannabis re-legalization era, a solution to the potential of cross-pollination is needed. Hemp varieties need to be separated to protect the qualities of the varieties from cross-pollination and varietal loss(1). Both marijuana and industrial hemp are the same plant, *Cannabis sativa*, but industrial hemp was developed with a low THC level and marijuana naturally has a high level(1). They can cross pollinate easily, with *Cannabis* pollen traveling great distances(1,2), which leads to problems. Hemp must remain low in THC, so pollination by high THC marijuana can ruin a crop. Conversely, pollinated marijuana plants are undesirable and can destroy yields and potency in the plants. With a low THC requirement in hemp and seedless marijuana the preferred crop for the recreational and medical marijuana markets, a solution is needed.



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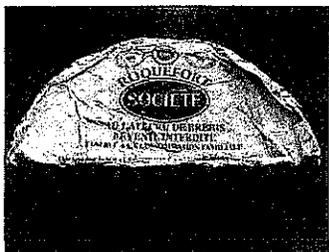


Illustration 3: Roquefort Cheese

A solution to prevent cross-pollination of Oregon's industrial hemp crops, or the hemp and marijuana crops, is to create appellation regions for cannabis. The idea of appellation regions is ancient, and references are mentioned in the bible, referring to wine of Samaria, wine of Carmel, wine of Jezreel(3).

This age old wine and food model used in Europe for centuries allows government or region some regulatory

authority over crop boundaries, production limits, crop types, and more. Most notably used for wine, it is also applied to some foods, such as cheese and olive oil(4).

With this regulatory method, Oregon can help prevent industrial hemp crops from pollination by marijuana, which would likely ruin the entire crop(1). Conversely, and the more immediate threat, is the "seeding" of marijuana by even small, experimental sized industrial hemp crops. This would degrade its quality and reduce the yield and marketability of the usually seedless marijuana crop, and could create additional costs to the marijuana growers(1).



Illustration 4: Early development of male flowers in Cannabis sativa.

The Problem With Hemp – Cross-Pollination:

Under Oregon's new hemp cultivation laws and rules, strict controls are placed on the levels of THC (tetrahydrocannabinol), the prominent psychoactive substance in marijuana(5). The levels must be below .03%, a remarkably low percentage which requires specific, genetically engineered, species. With this low THC requirement, cross-pollination with high THC

marijuana could pose a problem for both the hemp farmer and the marijuana grower in Oregon.

Hemp that results in a high THC level is not allowed, and seed that is retained from the crop that test high will be destroyed(5). A single high THC male marijuana plant can generate about 350,000 pollen grains(1,6), and in proximity to a small hemp farm, could result in a worthless industrial hemp crop.



Illustration 5: Hemp seed plants in the U.K.

Marijuana crops grown in certain areas could also be threatened, and, most of the gardens are private medical gardens currently, so a patient's medication is at risk. Due to Oregon's climate systems and the growing requirements of marijuana, substantial amounts of outdoor marijuana is grown in limited outdoor regions, with a very large number in Southern Oregon's dry Mediterranean climate zone(7,8). *Cannabis sativa* is *dioecious, or having both a male and female plant, and* marijuana gardens today remove all male plants to prevent "seeding" of the crop. This method of cultivation produces the highest possible quality medicine and also increases crop yields dramatically(9). The resulting crop is often referred to as "sensimilla", or "without seed"(9). Introducing an industrial hemp crop in the small valley's of this region could threaten to pollinate many of the areas outdoor marijuana gardens. Yields could be drastically reduced in gardens that are exposed to hemp pollen, as well as a reduction in THC levels and possibly other values of the plant(10,11). Additionally, growers may often be required to further process a crop to extract the remaining value from the seeded flowers, including removal of seeds and Hydrocarbon extraction(11).

Today's industrial hemp varieties are developed to meet low THC levels, but also specific traits. Some varieties are prodigious seed producers, and get only a few feet, while other varieties are especially tall and with few side branches, which yields the most possible fiber from a single crop(12).

Keeping these varieties from cross-pollinating, especially when the farmers are relying on their own seed stocks for replanting, is important(1,12).

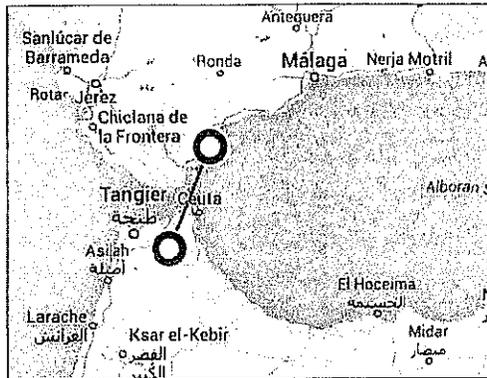


Illustration 6: Cannabis pollen drift from Morocco to southern Spain

Cannabis pollen is very small and travels over great distances(6). Some studies have shown Cannabis sativa pollen can travel from 5 to 12 kilometers, or 3 to 7.5 miles(1,13,14). Other research has found the pollen can travel greater distances given the right conditions and topography. One study found pollen traveling from Morocco to Spain, across the Mediterranean Sea, a distance of over 30 miles(15). Expert Andrea Hermann, President of the U.S. Hemp Industries Association and professional industrial hemp agrologist who has been a certified Health Canada THC sampler since 2005, thinks 10 miles is appropriate between marijuana and industrial hemp, or as she said, “a nice, country road drive!”(16).

The Immediate Threat to Outdoor Marijuana

The most immediate threat, and largest economic threat, is cross-pollination of medical marijuana gardens by industrial hemp in just three counties, Jackson, Josephine, and Douglas. These three counties have the only Mediterranean Climate(17) where outdoor, uncovered cannabis is grown easily. The number of gardens for growing cannabis under the OMMP program in this region is large due to the perfect climate. Of the gardens in the state registered to 11 patients or more, Portland’s *combined* zip codes were number one, followed by 4 zip codes in southern Oregon, Williams, Grants pass, Cave Junction and Eagle Point, demonstrating the ideal conditions in the region(18).

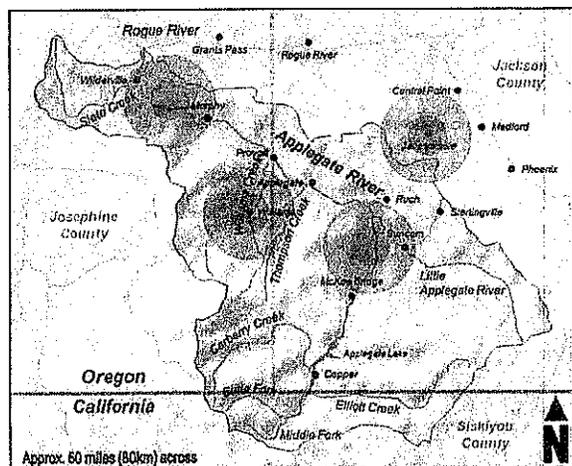


Illustration 7: Map of Applegate River Watershed with 4 possible hemp farms locations, the circles representing the more conservative pollen drift distances of 3 miles and 7.5 miles radius.

The topography of these counties consists of small valleys and rolling hills. Many valleys are only a mile or two wide, and an industrial hemp crop could threaten all the medical gardens planted in such a valley(1). With just a few hemp crops planted, hundreds of medical gardens could be threatened (see illustration 7).

The arguments that hemp crop “should” mature and produce pollen “before” medical marijuana plants can be pollinated is assuming the marijuana gardens are growing without light deprivation techniques(19,20) and that the hemp will be able to be planted when predicted. Light deprivation is a common technique used to make cannabis bloom earlier in the summer and produce a crop earlier than usual, often months sooner. The technique is employed more regularly in these counties, partly due to the mild climate(20). The early planting of hemp will be much as any warm weather crop and depend on soil temperature as much as air temperature(21). Soil temperatures in the southern valleys can be in the 40’s until late April, and the widely used Finola Hemp variety which flowers early requires soil temperatures above 50 degrees Fahrenheit(22).

Additionally, farmland counties is relegated to relative small areas on valley floors where the soils are flat, loamy and rich. The arable land where hemp can be grown in these three counties comprises only 5% of the entire states available farmland(23). The economic volume of total hemp production in the region, even if encouraged, would likely never surpass the potential value of the growing marijuana economy.

For these reasons, an *immediate* ban of hemp licensing in Jackson, Josephine, and Douglas counties makes sense until a permanent solution can be achieved due to the economic threat, potential crop loss, and threat

to an OMMP patient's medicine. The legislature may be able to use the definition of noxious weed as an immediate solution. Oregon's definition: "A weed is designated noxious when it is considered by a governmental agency to be injurious to *public health, agriculture*, recreation, wildlife, or property (Oregon Administrative Law 603-052-1200). Most noxious weeds are non-native plants that are serious pests *causing economic loss* and harm the environment. Noxious weeds *choke out crops*, destroy range and pasture lands, clog waterways, *affect human and animal health*, and threaten native plant communities."(24)

A Practical Long Term Solution – *Appellation Areas*

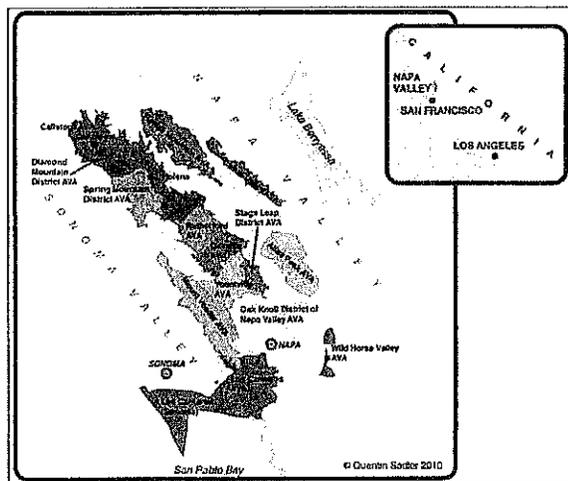


Illustration 8: Napa Valley, California wine appellation regions

By utilizing the natural topography, different climate regions, and widely dispersed growing areas in Oregon, an appellate designation for cannabis crops could be achieved. The use of crop control and appellate regions are common worldwide. These practices can allow for control of a commodity, enable market branding, prevent crop losses, insure crop quality, and more (4,25).

Wine regions across the country have created appellate regions known as viticulture areas to help define the regional wines. They insure the wines "pedigree" by geographic region of production, proper variety of grape use in the wines, soil types, and more(26). The branding enabled by these regional designations has been very beneficial to promotion of products from those regions, and the Oregon marijuana market could use a similar promotional strategy for their "sungrown cannabis", a product often preferred to indoor grown cannabis due to its tannin and flavor profile, smoothness, and much lower impact on the environment(27).

The appellation regions would also help insure different varieties of hemp and marijuana do not cross-pollinate or create unwanted seeded flowers.

Hemp and marijuana can be separated so the few outdoor marijuana regions are protected from hemp crop pollen drift, and hemp crops could be assigned regions to prevent their own unwanted varietal cross-pollination, and protection from high THC marijuana gardens. Examples of unwanted cross-pollination problems can be found in a number of other common crops, including sugar beets, carrots, and corn. These industries have instituted rules and practices to insure their crops do not conflict, including growing only in certain regions, harvesting at different times of year, and allowing proper distance between crops. In areas of the U.S. producing sugar beet seed, flowering is a necessity. In those areas, the risk of cross-pollination increases where wild beets occur, and where other stands of beets are at a different stage of growth(28). Jefferson County, Oregon and the neighboring counties, provide the majority



Illustration 10: Carrot seeds being grown in Jefferson count, Oregon.

of hybrid carrot seed to growers around the United States(29). Queens Annes Lace (wild carrot) is absent from the area, and pollination from it would ruin the seed crop. Corn growers have been careful for decades to avoid cross-pollination of field (cattle) and sweet (table) corn. Fields are planted proper distances apart and they stagger harvests to avoid contamination of their crop(30).

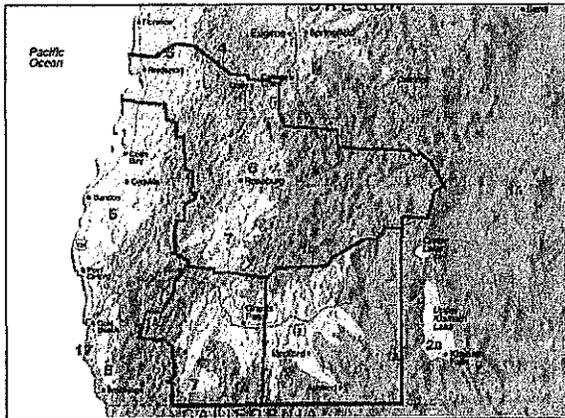


Illustration 11: Mediterranean Climate exists only in a very small region in Oregon (area in gold)

Application of Appellation Regions

Using the geography of the state, the climate zones in each region, and proper distances between each appellate region, a regional appellation system could be easily developed. The natural boundaries created by the mountains of Oregon are ideal to separate regions. Temperature, climate, and other considerations, as well as available resources, such as water and proper soil types, should be considered in final determinations.

The available arable land for hemp farms in a region, especially if marijuana cultivation is good in that same region, should also be considered. Due to the very small footprint of marijuana gardens, and often the use of commercially developed soils, they can exist in dry areas with smaller valleys with less amounts of arable land. It would not make sense to plant only a few hundred acres of hemp in a region that has hundreds of marijuana gardens, purely on the possible economic impact alone. Also, the hemp farmers themselves would be risking pollination of his low THC crop by a few high THC male marijuana plants near their garden, making his following years crop worthless.

Proposed Appellation Regions:

Designate counties, or parts of counties, in the Southwest valley areas which have a Mediterranean Climate, a climate characterized by hot dry summers and cold wet winters(17), ideal for high THC marijuana production, as High THC zones. There arable land area is small and the surrounding mountains provide a natural barrier to pollen drift. These counties are Josephine, Jackson, and the eastern portion of Douglas (See gold area illustration 11 and the larger zone 3 on Illustration 12).

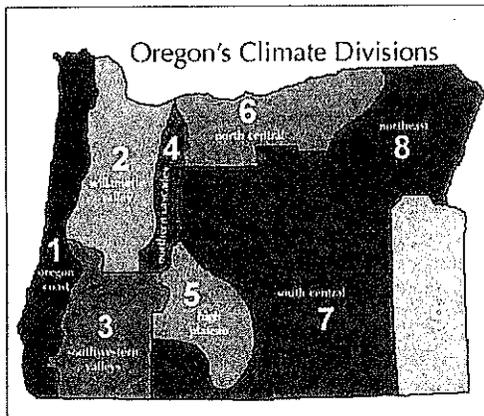


Illustration 12: Map of generalized climate zones in Oregon (not Koppen Geiger zones)

Areas in wetter much colder parts of the state, such as coastal regions and areas east of the Cascade mountain range, could still produce good quality low THC industrial hemp and are not particularly good areas to grow marijuana. Due to the high amount of rain and moisture in the coastal

regions, many of the gardens grown outdoor in these areas are also covered in greenhouses, which could also help mitigate cross-pollination for marijuana gardeners. These regions could be designated low THC areas where large scale hemp production would be allowed. This can be done by designating all counties that predominately lie East of the Cascade range a low THC zone *(See zones 4, 5, 6, 7, 8, and 9 on illustration 12)*.

Coastal zones that may be good for hemp cultivation could be separated by designating Clatsop, Tillamook, Lincoln, Coos, and Curry counties, with the far western portions of Lane and Douglas counties also included, as low THC zones. *(See zone 1 on illustration 12)*

The Willamette Valley is a wetter climate than marijuana typically prefers, but with a proper greenhouse or cover, cultivation is achievable. Hemp would do well there, though the soil quality is superior to that needed to effectively cultivate hemp. Since the humidity levels tend to be higher, and precipitation levels greater, the distance of pollen drift could be somewhat reduced. However, another concern may be powdery mildew, which is a common disease associated with industrial hemp. The disease could pose a problem in the Willamette Valley, a region known to battle the disease, especially in the vineyards. Further discussion would be warranted before a low THC zone in the Willamette region is established. Also, subdivisions within the valley might be possible considering it's large size. *(See zone 2 on illustration 12)*

Each appellate region would be able to further subdivide as is appropriate to their local climate, soils, and conditions. High THC areas can promote an even smaller regions product based on the unique conditions and micro-climate for those regions, an example might be "Illinois Valley" or "Upper Applegate Valley" appellations of marijuana. Low THC regions can be subdivided to "seed" growing areas and "fiber" growing areas to help stop crop losses from cross-pollination.

Conclusion:

Oregon should adopt a cannabis appellation system to help prevent problems likely to arise from cultivation of differing industrial hemp varieties low in THC and the high THC varieties of marijuana needed for the medical and adult use markets. Cannabis sativa has unique properties, and the different varieties need to be kept separate and unadulterated to maintain an already burgeoning marijuana economy and boost the potential of the industrial hemp economy in Oregon.

Immediate action is needed to protect the marijuana crops during the 2015 season in the three southern Oregon counties mentioned in this proposal, or further if the legislature believes it is needed. There is a major

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Keith Mansur

Keith Mansur is the founder, publisher, and editor of Oregon Cannabis Connection newspaper. The print publication has been serving Oregon since 2010. He has been a Oregon medical marijuana patient, grower, and caregiver since 2006. Find him on Facebook or email him at occnewspaper420@gmail.com

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