

Industrial Hemp Advisory Board (IHAB) Meeting  
California Department of Food and Agriculture (CDFA)

1220 N Street, Auditorium  
Sacramento, CA 95814

**Tuesday, October 30, 2018**  
9:30 AM – 4:30 PM

Board Members

Van Butsic  
Joshua Chase  
Rick Gurrola (Absent)  
Allison Justice (Absent)  
Matt McClain  
Valerie Mellano  
Tom Pires  
David Robinson  
John Roulac (Absent)  
Lawrence Serbin  
Richard Soria

CDFA & Guests

G.V. Ayers  
George Bianchini  
Mary Jo Bright  
Paul Castillo  
Nick Condos  
Tony DeVeyra  
Justin Eve  
Mayze Fowler-Riggs  
Seth Harris  
John Heaton  
Chis Hewes  
David Holey  
Jean Johnson  
Jeremy Kierig  
Stephen King, Jr.

Joshua Kress  
Donald Land  
Jason Leathers  
Danny Lee  
Alicia Madsu  
Wilk McDaniel  
Kevin Nowell  
Hayben Oilar  
Hiram Oilar  
Paul Perreira  
Caron Pettit  
Wayne Richman  
Pam Rodriguez  
Jeff Sanderson  
Tiffany Tu  
Marie E. Ziegel

**1. Roll Call and Opening Remarks**

Meeting called to order at 9:36 AM by Lawrence Serbin, Board Chair. Board members and Program staff provided self-introductions.

Serbin briefly reviewed the meeting's agenda. Michelle Phillips, Senior Environmental Scientist of the CDFA Nursery, Seed, and Cotton Program, reviewed general housekeeping information.

**2. Review and Approval of Minutes from August 22, 2018 Board Meeting**

The draft minutes from the August 22, 2018 Board Meeting were presented to the Board. No changes were requested.

There were no further discussions or comments.

Board Motion #1:

Lawrence Serbin moved to accept the minutes of the August 22, 2018 Board Meeting as presented.

Joshua Chase seconded the motion.

The Board voted on Motion #1 as follows:

Yes: Van Butsic, Joshua Chase, Matt McClain, Valerie Mellano, Tom Pires,  
Lawrence Serbin, and Richard Soria  
No: None  
Abstained: David Robinson  
Absent: Rick Gurrola, Allison Justice, John Roulac

Motion carried.

There were no public comments regarding this item.

**3. Review and Approval of Methodology and Procedure to Amend List of Approved Seed Cultivars (Per FAC Section 81002)**

Joshua Kress reviewed the requirements to establish a methodology and procedure to add, amend, or remove a seed cultivar from the list of approved seed cultivars, as outlined in California Food and Agricultural Code (FAC) Section 81002. Kress reviewed the proposed Section 4921 in Title 3 of the California Code of Regulations. Kress expressed the need to ensure public participation during the process of updating the list of approved seed cultivars.

Valerie Mellano asked about the term “promptly” in Section 4921(a)(5). Kress explained that the term was retained from Section 81002 of the California Food and Agricultural Code (FAC).

Mellano asked if the Board was able to specify a timeframe for the Office of Administrative Law to file the amended list with the Secretary of State. Kress explained that he believed the timeframe may already be set in the Administrative Procedure Act.

G.V. Ayers, Gentle Rivers Consulting, suggested to include procedures to allow both the Department and the Board to amend the list of approved seed cultivars. Ayers believed that the Department was providing too much deference to the Board and the law did not require the Board’s approval to amend the list. Ayers explained potential issues if the Board was unable to act quickly to amend the list of approved seed cultivars.

Serbin explained that changes to the list of approved seed cultivar could occur quickly as needed since the Board has held meetings monthly.

Joshua Chase suggested people could propose seed varieties to CDFA for proposal. Kress explained the proposed methodology would require proposals to amend the list of approved seed cultivars come from the Board Chair or four board members and followed by a public hearing. Kress stated that the proposed methodology could be revised in the future to allow the Department to propose an amendment to the list of approved seed cultivars. Serbin suggested any requests to amend the list of approved seed cultivars could be directed to him as the Board Chair.

Steven King Jr., Pharmers LLC, commented that the cultivars allowed will directly impact a farmer’s ability to maintain compliance and profitability. King warned against putting farmers in crop failure due to cultivar restrictions.

Serbin agreed that there should be as many cultivars as possible to provide farmers more flexibility. King stressed that cultivar adaptation is important since these cultivars may come from different growing environments.

Tom Pires expressed the need to define a timeframe for getting a new variety or cultivar available. Kress explained that the proposed procedure required thirty days for public review of the proposed amendment to the list of approved cultivars before a board meeting is held for a board vote. Kress added that following the Board's recommendation, the proposed amendment would be forwarded to the Secretary and the Office of Administrative Law for posting without further review.

Board Motion #2:

Matt McClain moved to accept the proposed methodology and procedure to update the list of approved seed cultivars with the following amendment to Section 4921(b)(2):

*The public hearing to consider a proposal to amend the methodology and procedure shall be part of a regularly scheduled meeting of the Industrial Hemp Advisory Board.*

Lawrence Serbin seconded the motion.

The Board voted on Motion #2 as follows:

Yes:	Van Butsic, Joshua Chase, Matt McClain, Valerie Mellano, Tom Pires, David Robinson, Lawrence Serbin, and Richard Soria
No:	None
Abstained:	None
Absent:	Rick Gurrola, Allison Justice, John Roulac

Motion carried.

**4. Discussion on Definition of “Destruction” as Used in FAC § 81006**

Kress reviewed the existing destruction requirements in FAC Section 81006 as well as the proposed language in Senate Bill (SB) 1409. He explained that destruction requirements did not include any means of remediation under the current and proposed provision. He also stressed that Department and Commissioner did not have the means to track harvested material for oversight of remediation to be feasible. Kress noted that the provision did not further define of destruction. Kress reviewed the dictionary definition of “destroy”.

McClain asked if the Department had suggestions for acceptable methods of destruction. Kress requested recommendations for acceptable methods of destructions from the Board.

Chase recommended a legislative amendment to the current law to amend the definition of destruction.

McClain inquired about the dictionary definition of destruction. Chase read the definition of destroy from the Merriam Webster Dictionary.

Serbin stated that destruction requirements were discouraging for hemp farmers.

Wayne Richman, Executive Director of California Hemp Association, expressed concerns with the destruction requirements.

King commented that hemp growers should not be punished because of genetic inconsistencies and unreliable laboratory test results. He expressed concerns that destruction requirements will discourage farmers from cultivating hemp.

Ayers inquired if CDFA had made the determination on destruction public. Kress explained that the Program could publish a letter to further explain the destruction requirements, but that this conversation would be included in the meeting minutes.

Ayers commented that farmers may need to conduct test plots of cultivars to ensure that the THC concentrations are acceptable before investing on a larger scale.

George Bianchini suggested to allow growers to salvage the crop by extracting and destroying the THC. Bianchini also stated that the entire plant should be tested since the entire plant will be sold.

Serbin pointed out that the destruction requirements stemmed from Proposition 64. Serbin recommended further amendments to the law to assist farmers and limit the destruction of crops.

#### **5. Discussion on Definition of Tetrahydrocannabinol (THC)**

Serbin reviewed the difference between THCA and  $\Delta^9$ -THC and explained that THCA converts to  $\Delta^9$ -THC through decarboxylation. Decarboxylation occurs when THCA is heated, which occurs in some testing methods. Serbin explained that the 2018 Farm Bill requirements required using a decarboxylated method or other similarly reliable methods.

Don Land, Professor of Chemistry at UC Davis and Chief Scientific Consultant for Steep Hill, explained that the standard for THC testing method used by law enforcement and United Nations was gas chromatography.

Land recommended the Board to adopt the use of gas chromatography for testing THC because gas chromatography would provide a lower conversion rate for THCA due to testing inefficiencies than the standard conversion rate of 0.877 based on molecular weight difference between THCA and THC.

Serbin inquired about the accuracy of gas chromatography. Land replied that the testing results were about five percent relative to the measured THC with some margin of error. He explained that calibration would be required for measuring such small amounts of THC.

Serbin inquired about instrument contamination between cannabis and hemp. Land explained that contamination is concern for all testing activities and contamination, or carryovers, could be avoided by having engineering and procedural controls in place.

Serbin inquired about testing accuracy. Land replied that laboratories are required to be accurate to 0.01% for cannabis testing.

Serbin asked if laboratories based the measurement of THC on one single test or multiple tests. Land stated that only one test was mandated but advised performing two tests in order to obtain a range.

Serbin inquired about proposed language in SB 1409 for Department-approved laboratories. Kress explained that the Board previously recommended that ISO 17025 accreditation for testing laboratories.

McClain inquired about a sample laboratory certificate of analysis presented. Land explained the conversion calculation was used to determine the total THC concentration on the sample laboratory certificate of analysis and suggested utilizing gas chromatography instead to determine the total THC.

King asked how samples are homogenize at the laboratory. Land explained his laboratory procedures for testing cannabis.

King then asked about the decomposition of THC. Land explain THC can decompose to other intoxicating cannabinoids through heating.

Bianchini expressed concerns with variation in testing reports and alteration of the cannabinoid makeup of a sample through testing.

## **6. Discussion on Sampling Responsibilities and Procedures**

Richard Soria, on behalf of himself and Allison Justice, proposed that the commissioners would be responsible for sampling but would have the option of designating an ISO-accredited laboratory to collect samples. Soria stated that Santa Cruz and Monterey counties found the proposal acceptable. Soria explained that Santa Cruz County would charge approximately \$71.45 per hour and \$107.18 per hour for overtime.

Chase stated his local commissioner's office preferred to collect the samples. He also recalled that the proposal would allow the grower to select the ISO-accredited laboratory for testing. Soria confirmed that the recommendation would provide the grower the ability to choose the ISO-accredited laboratory.

Serbin commented that it would be easier for a private company to collect the samples and provide personnel. He added that commissioners may not be able to accommodate the growers' needs during harvest season and may result in increased fees for sampling activities due to the lack of personnel. Soria expressed private companies may not be a feasible option due to chain of custody issues.

Mellano asked about the proper wording in the proposed sampling procedures. Soria explained that the sample would be collected by the Commissioner, but the Commissioner would have the option of allowing a ISO-accredited laboratory to collect the sample. He suggested removing the word "designating" and confirmed that the grower should have the ability to choose the testing laboratory.

Kress mentioned Rick Gurrola's previous concern regarding the use of private entities to collect official regulatory samples. He explained that sample collection would need to be overseen by commissioners to ensure the chain of custody was maintained since commissioners would be responsible for conducting enforcement actions based on the samples collected. Kress also commented that the Department generally would not take actions based on non-regulatory samples.

Mellano asked about resampling options. Kress explained that the law allowed for resampling if the initial THC test result was between 0.3 percent and one percent.

Existing law did not allow for resampling for crops that tested above one percent. He added that destruction as outlined in FAC Section 81006 was required if the initial sample tested above one percent or the resample tested between 0.3 percent and one percent.

Mellano asked about including resampling procedures in the proposed language. Kress explained that it would be important to include resampling procedures in the proposed language if they were different than the initial sampling procedures.

McClain asked about the Board's previous recommendations. Kress replied that the Board's previous recommendation did not address who would collect the samples. He explained that a comprehensive outline of the Board's recommendations on sampling and testing could be provided to the Board for review once the sampler is addressed.

Chase explained that the law did not specifically state who oversaw the destruction but believed the responsibility would be for law enforcement officials. David Robinson stated that the main concern for law enforcement is the destruction of plant material with high THC content and not necessarily how it is destroyed.

King expressed concerns regarding the sample size. He suggested homogenizing the samples collected in order to obtain an accurate representation of the field to be harvested and obtaining samples of the whole plant.

Hiram Oiler suggested the Board to piggyback on existing sampling systems for other purposes and train current certified third-party samplers in those systems to collect hemp samples.

Justin Eve, 7 Generations Producers, recommended the use of a third-party or certified laboratory to collect the samples.

Land explained that the Bureau of Cannabis Control (BCC) allows trained laboratory personnel to collect samples and explained how chain of custody is maintained through the process. He recommended contacting John Young, Yolo County Agricultural Commissioner, for more further information regarding their experience sampling in the county's cannabis pilot program.

Jeremy Kierig explained that the Oregon Department of Agriculture (ODA) allowed laboratory personnel to collect the samples to because they did not have enough resources to handle the sampling workload. He also suggested exploring in-field testing.

Ayers recommended providing the Commissioner the ability designate another entity to collect samples for now and eventually have a certified individual collect samples with CAC oversight.

Wilk McDaniel recommended splitting samples so that multiple tests can be done to confirm the THC level before requiring crop destruction on crops that exceed the THC threshold. Serbin suggested having the first test be conducted by the designated laboratory and the CAC can be involved in the second testing to confirm the THC before requiring crop destruction.

Phillips reviewed a letter addressed to the board members from Lisa Brown and Kevin Johnson asking for a wet sample standard in addition to the procedures for testing dry samples.

Serbin asked Land to explain the difference between testing a wet sample and a dry sample. Land explained that samples with higher moisture content would be less accurate and would require the measurement of the moisture content since the current THC threshold is based on a dry weight basis.

Serbin inquired if Land's laboratory would dry a wet sample prior to testing. Land responded that he would partially dry the sample and measure the moisture and THC content.

Serbin reiterated that Brown and Johnson suggested that the board recommended the testing standards for both wet and dry samples. Land responded that testing wet samples would be an option if the sample did not mold prior to testing.

Kress reviewed the sampling and testing recommendations from the sampling and testing task force.

Serbin summarized the recommendation from the task force for sample collection. Soria clarified the recommendation would allow the farmer to choose a laboratory and have the CAC collect the samples. If the CAC was not able to collect samples, they could designate a laboratory to collect the samples.

Serbin and McClain concurred that the recommendation from the task force was a logical and practical solution to allow the CAC to maintain custody of the samples. Robinson explained that law enforcement utilized private laboratories regularly. Pires supported providing the CAC with the flexibility to manage the sampling workload.

McDaniel expressed concerns regarding the sampling and testing requirements in California law. Serbin explained that any statutory changes require legislation and the Board does have the ability to change them. He also explained that the Board has made a motion at the August 22, 2018 meeting for CDFA to adopt the sampling and testing guidelines as reviewed by Kress. McClain explained that the Board was operating within the law to develop the sampling and testing protocols but inquired for any suggestions on additional changes.

Bianchini asked if samples would be collected six inches from the top of the plant. Kress responded that SB 1409 changed the requirement to using department approved procedures.

Bianchini expressed concerns regarding the requirement for samples to be dried before analysis and the use gas chromatography since it would change the cannabinoid profile of the sample.

Land recommended obtaining samples of both male and female plants in order to obtain a true representative sample of the crop.

Serbin pointed out that the 2018 Farm Bill specified measuring THC post-decarboxylation.

McClain asked if the guidelines proposed by the task force were still open for discussion. Kress explained that all the recommendations would be compiled and presented to the Board for confirmation before proposing further regulations.

McClain expressed interest in revisiting recommendations on the testing method and the exclusion of male plants in the sample collection.

Mellano asked Land if drying the material would increase the THC content. Land responded that the drying method may cause some conversion of THC-A to  $\Delta$ 9-THC, but the conversion would already occur as result of the proposed testing method.

Board Motion #3:

Lawrence Serbin moved to recommend that the Commissioner, or a third-party designated by the Commissioner, collect the sample in the presence of the grower and the grower would select the testing laboratory to conduct the THC analysis.

Tom Pires seconded the motion.

The Board voted as follows:

Yes: Van Butsic, Joshua Chase, Matt McClain, Valerie Mellano, Tom Pires,  
David Robinson, Lawrence Serbin, and Richard Soria

No: None

Abstained: None

Absent: Rick Gurrola, Allison Justice, John Roulac

Motion carried.

**7. Discussion on Crop Destruction Responsibilities and Procedures**

Chase reviewed the three proposed destruction methods that he and Tom Pires had presented to the Board at the September 26, 2018 meeting. Chase explained that California law required crop destruction and the task force proposed that any crop destruction methods allow for local discretion.

Serbin asked about the flexibility in the destruction requirements. Kress explained that without any further specification from the Board or CDFA, the destruction method would be up to the CAC or sheriff on what destruction methods would be acceptable. Kress pointed out that any destruction recommendations would provide guidance to local authorities and consistency throughout the state.

Serbin asked Chase if he had any ideas for destruction methods. Chase suggested chopping the material and incorporating it back into the soil but advised providing discretion to local authorities for destruction methods.

Serbin asked Robinson about his experience with destruction of crops. Robinson commented that they did not have experience with hemp, but speculated that similar destruction method used for cannabis, like burning, plow-downs, local landfill burial, and burial on the property site, would be considered for destruction methods for hemp.

Serbin then asked if law enforcement would typically bill the property owners for the destruction of the crops. Robinson responded that in cannabis cases, typically costs



would be recouped through the court system. He suggested the CAC may want to address costs associated with crop destruction. Kress stated that he was unfamiliar with any situation where the grower was billed for time for taking a regulatory enforcement action unless there was some sort of fine involved or a penalty action by the courts.

King expressed concerns regarding crop destruction for THC content even though the THC content will fluctuate during processing and manufacturing.

Justin Eve requested clarification on the proposed destruction process. Robinson stated that based on cannabis, destruction of crops would be conducted such as burning, plow-downs, and landfill burial. Kress stated that from the agricultural enforcement perspective, he was unaware of any situations in which involved third parties in the destruction of plant material.

Serbin asked if the state would follow up with the local authorities to ensure the destruction method is appropriate, if local authorities can approve destruction methods. Kress explained that CDFA would work with the CAC to provide guidance and training and would generally be involved with any major enforcement action.

King commented that the destruction of hemp could be avoided if there was infrastructure in place. Serbin reiterated that per the definition outlined earlier, destroy means destroy.

Chase explained that remediation was determined to not comply with the destruction requirement in existing law. He noted that legislative changes would be required to recommend remediation. McClain suggested to accept Black's Law Dictionary's definition of destruction because it was broader.

Serbin inquired about CDFA's definition of destruction. Kress explained that CDFA does not allow remediation for any crops that are to be destroyed.

McDaniel commented that the first word in the Merriam-Webster dictionary definition of destroy was "repair." He suggested finding means to repair the plant as a form of destruction. Robinson replied that a legal opinion is required.

A member of the public expressed concerns regarding the financial and environmental impact for destruction and advised that burning the crop should be a last resort for destruction.

#### **8. Discussion on Development of Agricultural Pilot Program**

Chase reviewed the agricultural pilot program provision in SB 1409 and the 2014 Farm Bill. Chase proposed that the purpose of the agricultural pilot program was to create a federally compliant program for California farmers to research the growth, cultivation, and marketing of industrial hemp in California and create new opportunities for new markets in other states and countries. He recommended that registration information would be collected for the agricultural pilot program. Chase concluded that he believed that the current registration program qualified as an agricultural pilot program and could be stated as such in regulation.

Van Butsic asked if established agricultural research institutions were recognized as institutions of higher education and could participate in the proposed agricultural pilot

program. Kress clarified that the definition of established research institutions includes institutions of higher education as defined in federal law as well as other entities. Established agricultural research institutions were not required to register but may voluntarily do so to participate in the agricultural pilot program. Kress explained that CDFA did not generally conduct research but rather funded research projects through specific programs.

McClain inquired if CDFA believed the current program qualifies as an agricultural pilot program. Kress stated that the law allowed CDFA to establish a pilot program by regulation with the intention of providing federal compliance for registrants.

McClain suggested that the destruction information be collected from the CAC as they are responsible for destruction.

McClain recommended that data collected under the agricultural pilot program be used for the report required in FAC Section 81009. In addition, he suggested working with current established agricultural research institutions to collect data and develop research protocols.

McClain asked if CDFA would be willing to obtain a Drug Enforcement Administration (DEA) permit to bring seed into California as part of the agricultural pilot program. Kress explained that CDFA did not import or distribute any plant materials as those services were generally performed in California by the UC.

McClain asked if an agricultural pilot program could be initiated before registering growers. Kress explained that the law defined the agricultural pilot program as part of a registration program.

Serbin recommended that CDFA obtain DEA permits to assist farmers with importing seed.

Mellano explained that the Cal State system was interested in engaging in hemp research but had reservations due to potential impacts to federal fund.

Kress asked if there were plans for the Cal State and UC systems to conduct hemp research. Mellano stated that there were no plans for the Cal State system at this point. Butsic commented that there was interest in the UC system to research hemp and there were efforts to plant in Southern California in Winter 2018 or Spring 2019.

Kress noted that CDFA will explore the importation of hemp seed materials and report at next board meeting.

McClain volunteered to work on an agricultural pilot program task force with Chase. Serbin assigned Chase and McClain to research the establishment of an agricultural pilot program and present additional information and recommendations at the following board meeting.

Eve recommended to focus the agricultural pilot program on supporting farmers and not treat it as another set of regulations for farmers to comply with.

Board Motion #4:

Joshua Chase moved to recommend CDFA to draft regulations based on the recommendations presented to the Board to establish an agricultural pilot program in accordance with FAC Section 81007.

Lawrence Serbin seconded the motion.

McDaniel inquired if the UC Davis equine program would be involved in the agricultural pilot program. Butsic replied that research on equine would most likely fall outside of the regulatory framework for industrial hemp cultivation.

The Board voted on Motion #4 as follows:

Yes:	Van Butsic, Joshua Chase, Matt McClain, Valerie Mellano, Tom Pires, David Robinson, Lawrence Serbin, and Richard Soria
No:	None
Abstained:	None
Absent:	Rick Gurrola, Allison Justice, John Roulac

Motion carried.

**9. Discussion on Changes to State and Federal Laws and Identification of Future Board Actions**

Kress reviewed the changes of California law due to SB 1409 including registration timeframe, fee structure, sampling procedures, approved laboratories, testing methods, established agricultural research institution notification. He explained that the new board recommendations regarding sampling and testing will be reviewed to ensure compliance with the law as amended by SB 1409. Kress noted that currently there are no changes in the federal law.

McClain asked if the agricultural research institution notification requirement would be applicable to entities currently growing. Robinson replied that the provision did not include current agricultural research institutions.

Bianchini inquired if the Board was aware of the reason why the proposed language in SB 1409 authorizing counties the ability to ban the cultivation of industrial hemp was ultimately removed. Serbin responded he was not aware of any information regarding this.

There were no motions regarding this item.

**10. Proposal of Amendments to List of Approved Seed Cultivars (Per FAC § 81002)**

McClain and Kress reviewed the proposed Section 4920 in Title 3 of the California Code of Regulations to amend the list of approved seed cultivars outlined in FAC Section 81002.

John Heaton, Branch Chief for the CDFA Pest Exclusion Branch, inquired if there is a list of approved seed cultivars for commercial production. In addition, he asked if there are measurements in place for seed quality control. Kress explained that the THC content was the primary concern and the use of approved seed cultivars did not require certification.

Heaton recommended the use of certified seed to ensure the quality of their crops. It was noted that the cotton and rice industries voluntarily adopted requirements for the use of certified seed due to quality concerns. Heaton explained the potential advantages for the use of certified seed.

Chase explained that he originally proposed limiting the number of seeds used under categories 3, 4, and 5. Kress noted that the law included only category 1 and the proposed language would add categories 2, 3, 4, and 5. In addition, the proposed list did not apply to seed breeders and agricultural research institutions.

Kevin Nowell commented on the potential issues due to that lack of availability of certified domestic seed. He also asked for clarification regarding the language for testing requirements for the approved seed cultivars.

McClain noted that Alex Mkandawire previously explained that the list of approved certified seed varieties had been confirmed to have no more than 0.3% THC concentration. Kress confirmed.

Board Motion #5:

Lawrence Serbin moved to have the Board consider the proposed amendment to the list of approved seed cultivars at the next meeting.

Richard Soria second the motion.

The Board voted on Motion #4 as follows:

Yes:	Van Butsic, Joshua Chase, Matt McClain, Valerie Mellano, Tom Pires, David Robinson, Lawrence Serbin, and Richard Soria
No:	None
Abstained:	None
Absent:	Rick Gurrola, Allison Justice, John Roulac

Motion carried.

Kress explained that the next board meeting would be scheduled at least 30 days in advance to allow the posting of the proposed list of approved seed cultivars along with the meeting notice and agenda in accordance with CCR Section 4921, the newly adopted methodology and procedure to add, amend, or remove a seed cultivar from the list of approved seed cultivars.

**11. Additional Public Comments**

Bright asked for clarification regarding the proposed list of approved seed cultivars. Kress explained that the proposal was for amending the list of approved seed cultivars under current law. The proposal would be posted for 30 days for the public to review before it is considered by the Board. Kress further explained the administrative process for finalizing the proposal into regulation. He added that the approval process would be in place before registration would take effect.

Bright inquired about registration. Phillips stated the proposed regulations to establish a registration fee was scheduled to be published by the Office of Administrative Law on

November 9, 2018. The public comment period ended on December 24, 2018. Kress explained the rulemaking process following the public commenting period.

Kierig recommended to allow remediation if the crop was planted using seeds from the approved list of cultivars and certifying agency, as proposed, and tested above the THC concentration limit.

## **12. Next Meeting/Agenda Items**

Chase asked about the plan regarding the sampling and testing rulemaking. Kress indicated the Program would summarize all the board recommendations and present it at the next board meeting.

McClain suggested examining the degree of uncertainty on laboratory test results and address rounding on results to the 100<sup>th</sup> decimal place. Kress asked the Board if they had recommendations to share.

Mellano agreed if the error was within five percent and rounding up was important to consider. Kress suggested CDFA would consult with internal experts on chemistry testing. Soria agreed.

Chase suggested working on proposal to amend and further broaden the list of approved seed cultivars. Kress stated the proposed list presented during this meeting was a list of categories of seed and places they can come from. Kress explained that the Board did not provide specifications on varieties, but the Board could consider specifying varieties in a future proposal.

McClain recommended reviewing the list of approved cultivars again at the following board meeting to explore ways to broaden it.

Kress reiterated that CDFA would present a summary of the sampling and testing recommendations and the list of approved seed cultivars at the next board meeting. Additionally, Kress noted that the CDFA will look into the importation of hemp plant material.

Pires suggested researching cultivars to ensure to minimize crop failure. McClain commented that the state of Kentucky had a list of varieties of concern that have tested above the approved limits. Mellano suggested that these were good reasons to have the agricultural pilot program in place to provide guidance to farmers in California.

McClain listed the following topics for the following meeting: testing and sampling guidelines, the approved seed cultivar list, registration form, fee regulations, and the agricultural pilot program.

The Board tentatively set the next board meeting for December 11 or 12, 2018, pending confirmation.

## **13. Adjournment**

Meeting adjourned by Richard Soria at 3:40 PM.

Respectfully submitted by:

Michelle Phillips  
Senior Environmental Scientist (Specialist)  
CDFA Nursery, Seed and Cotton Program

Proposed Methodology and Procedure to Update the List of Approved Seed Cultivars  
For Consideration by the Industrial Hemp Advisory Board  
at the October 30, 2018 Board Meeting

**In Title 3, California Code of Regulations, Division 4, adopt:**

**Chapter 8. Industrial Hemp Cultivation**

**Article 2. Regulations for Industrial Hemp Cultivation**

**§ 4921. Methodology and Procedure to Update the List of Approved Seed Cultivars.**

- (a) The Secretary adopts the following methodology and procedure to add, amend, or remove a seed cultivar from the list of approved seed cultivars.
  - (1) Upon request from the chair of the Board, or of any four members of the Board, the Department shall schedule a public hearing to consider a proposal to update the list of approved seed cultivars by adding, amending, or removing seed cultivars. A notice and text of the proposal shall be made available to the public no less than 30 days prior to the hearing.
  - (2) The public hearing to consider a proposal to update the list of approved seed cultivars shall be part of a regularly scheduled meeting of the Industrial Hemp Advisory Board.
  - (3) The public hearing shall include:
    - (A) Presentation of the proposal to update the list of approved seed cultivars;
    - (B) Presentation of the purpose for the update; and
    - (C) Opportunity for public comment, pursuant to Section 11125.7 of the Government Code.
  - (4) After receiving comments from the public, the Board shall vote to accept, amend and accept, or deny a proposal for recommendation to the Secretary.
  - (5) Upon recommendation by the Board to adopt a proposal and approval by the Secretary, the Department shall amend the list of approved seed cultivars and shall submit the amended list to the Office of Administrative Law to be filed promptly with the Secretary of State. Pursuant to Section 81002 of the Food and Agricultural Code, the proposal shall not be subject to further review.
  - (6) The Department shall post the list of approved seed cultivars to its website and shall provide electronic and/or mail notification of amendments to list of approved seed cultivars to parties that have requested notification. An interested party may go to

Proposed Methodology and Procedure to Update the List of Approved Seed Cultivars  
For Consideration by the Industrial Hemp Advisory Board  
at the October 30, 2018 Board Meeting

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**Chapter 8. Industrial Hemp Cultivation**

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  - (2) The public hearing to consider a proposal to update the list of approved seed cultivars shall be part of a regularly scheduled meeting of the Industrial Hemp Advisory Board.
  - (3) The public hearing shall include:
    - (A) Presentation of the proposal to update the list of approved seed cultivars;
    - (B) Presentation of the purpose for the update; and
    - (C) Opportunity for public comment, pursuant to Section 11125.7 of the Government Code.
  - (4) After receiving comments from the public, the Board shall vote to accept, amend and accept, or deny a proposal for recommendation to the Secretary.
  - (5) Upon recommendation by the Board to adopt a proposal and approval by the Secretary, the Department shall amend the list of approved seed cultivars and shall submit the amended list to the Office of Administrative Law to be filed promptly with the Secretary of State. Pursuant to Section 81002 of the Food and Agricultural Code, the proposal shall not be subject to further review.
  - (6) The Department shall post the list of approved seed cultivars to its website and shall provide electronic and/or mail notification of amendments to list of approved seed cultivars to parties that have requested notification. An interested party may go to



the Department's website and elect to receive automatic notifications of any changes to the list of approved seed cultivars via an electronic mail listserv.

(b) Amendment of the methodology and procedure.

- (1) By motion, the Board may recommend amending the methodology and procedure in subsection (a). In consultation with the chair of the Board, the Department shall schedule a public hearing to consider the recommendation, and a notice and text of the proposed amendment shall be made available to the public no less than 30 days prior to the hearing.
- (2) The public hearing to consider a proposal to amend the methodology and procedure shall part of a regularly scheduled meeting of the Industrial Hemp Advisory Board.
- (3) The public hearing shall include:
  - (A) Presentation of the proposal to amend the methodology and procedure;
  - (B) Presentation of the purpose for the amendment; and
  - (C) Opportunity for public comment, pursuant to Section 11125.7 of the Government Code.
- (4) After receiving comments from the public, the Board shall vote to accept, amend and accept, or deny the proposal for recommendation to the Secretary.
- (5) Upon recommendation by the Board to adopt the amendment and approval by the Secretary, the Department shall amend the methodology and procedure, and shall submit the amended methodology and procedure to the Office of Administrative Law to be filed promptly with the Secretary of State. Pursuant to Section 81002 of the Food and Agricultural Code, the proposal shall not be subject to further review.
- (6) The Department shall provide electronic and/or mail notification of the amendment to the methodology and procedure to parties that have requested notification. An interested party may go to the Department's website and elect to receive automatic notifications of any changes to the methodology and procedure via an electronic mail listserv.

Note: Authority cited: Sections 407 and 81002, Food and Agricultural Code  
Reference: Sections 81001 and 81002 Food and Agricultural Code

the Department's website and elect to receive automatic notifications of any changes to the list of approved seed cultivars via an electronic mail listserv.

(b) Amendment of the methodology and procedure.

- (1) By motion, the Board may recommend amending the methodology and procedure in subsection (a). In consultation with the chair of the Board, the Department shall schedule a public hearing to consider the recommendation, and a notice and text of the proposed amendment shall be made available to the public no less than 30 days prior to the hearing.
- (2) The public hearing to consider a proposal to amend the methodology and procedure shall part of a regularly scheduled meeting of the Industrial Hemp Advisory Board.
- (3) The public hearing shall include:
  - (A) Presentation of the proposal to amend the methodology and procedure;
  - (B) Presentation of the purpose for the amendment; and
  - (C) Opportunity for public comment, pursuant to Section 11125.7 of the Government Code.
- (4) After receiving comments from the public, the Board shall vote to accept, amend and accept, or deny the proposal for recommendation to the Secretary.
- (5) Upon recommendation by the Board to adopt the amendment and approval by the Secretary, the Department shall amend the methodology and procedure, and shall submit the amended methodology and procedure to the Office of Administrative Law to be filed promptly with the Secretary of State. Pursuant to Section 81002 of the Food and Agricultural Code, the proposal shall not be subject to further review.
- (6) The Department shall provide electronic and/or mail notification of the amendment to the methodology and procedure to parties that have requested notification. An interested party may go to the Department's website and elect to receive automatic notifications of any changes to the methodology and procedure via an electronic mail listserv.

Note: Authority cited: Sections 407 and 81002, Food and Agricultural Code  
Reference: Sections 81001 and 81002 Food and Agricultural Code

# THCA and THC: What's the Difference?

The relation? THCA becomes THC.

THCA non-intoxicating when consumed in raw cannabis (fresh, uncured, and unheated) but intoxicating once it has become THC

Only a few cannabinoids cause the euphoric high that is unique to the cannabis plant. Most people assume that during the growth period the cannabis plant is producing THC, when it is actually primarily producing a larger molecule: THCA.

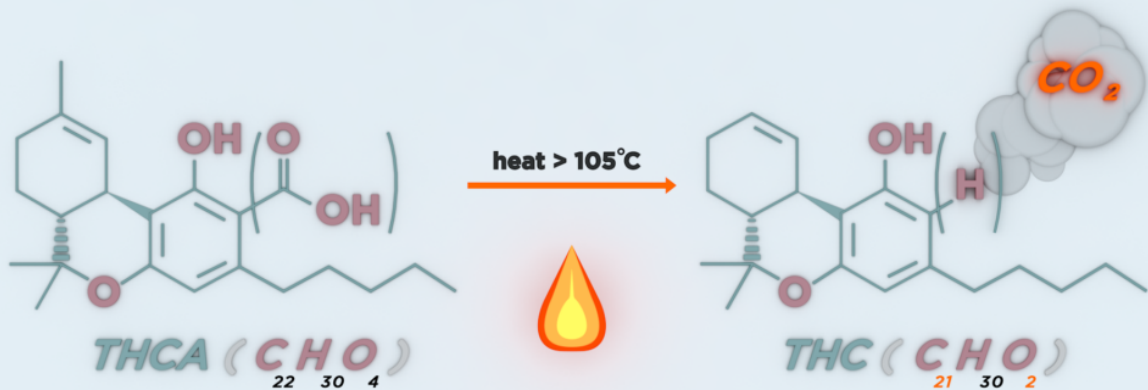
THCA is the non-intoxicating precursor that becomes THC when exposed to heat over a prolonged period of time. THCA that's found in the cannabis plant won't make you feel high. This is how you can eat or drink the raw plant and not feel its intoxicating effects. The THCA molecule doesn't fit into the brain's cannabinoid receptors.

THCA is a larger compound than THC. This is due to the extra carboxyl group attached to the molecule; it's this carboxyl group that defines THCA as an acid. In fact, most cannabinoids (CBDA, CBGA, THCV) take this acidic form when harvested and it is only later that they become the cannabinoids (CBD, CBG, THC).

The term for converting THCA into THC is decarboxylation. Simply put, it's the process of removing the carboxylic acid group from a cannabinoid, a change that enhances its ability to interact with the body. Without decarboxylation, THCA have very little affinity for the cannabinoid type I (CB1) receptor since they can't fit. CB1 receptor activation is a requirement for intoxication; if molecules don't fit here, they can't get you high.

Heat removes a carboxylic acid group from THCA, and the molecule decarboxylates into THC. As a smaller cannabinoid, THC is able to bind to CB1 receptors throughout the human body, producing intoxication.

## Decarboxylation reaction of $\Delta^9$ THC



wm

The human body is not capable of converting THCA into THC.

### Heat, Light, and Other Ways THCA Converts to THC.


THCA is considered “thermally unstable,” which is another way to emphasize that it will alter when provoked by heat. Because of THCA’s instability, the molecule lends itself to several different methods of decarboxylation

**Sunlight conversion:** THCA can convert to THC to varying degrees through exposure to light and heat. If a cannabis plant sits in the warm sun for an extended period of time, its THCA compounds will slowly convert to THC.

**Room temperature conversion:** THCA also converts to THC when stored at room temperature for a long enough time. In an olive oil extract, 22% of THCA will convert to THC over the course of 10 days at 77 degrees. Under the same conditions, 67% of THCA in an ethanol extraction will convert. Over time, cannabis stored at room temperature with very little light exposure will convert 20% of its THCA to THC.

Smoking: If dried and cured bud is exposed to a high degree of heat for a short time, as a match or lighter would provide during smoking, much of the existing THCA rapidly changes to THC. However, not all THCA converts to THC (smoking isn't the most efficient method of decarboxylation).


## Do Labs Test for THCA or THC?


**Certificate of Analysis**  
Informational Use Only - Not For Regulatory Use

Powered by Confident Cannabis  
1 of 2

Sample: 1803CH0077.0377  
Strain: Red Kross  
Batch#: ; Batch Size: - grams  
Sample Received: 03/09/2018; Report Created: 03/14/2018; Expires: 03/14/2019  
Harvest/Production Date:  
Sampling: Random; Environment: Room Temp

Lic. #  
**#1 XL Auto hemp**  
Plant, Flower - Cured, Outdoor  
Harvest Process Lot: ; METRC Batch: ; METRC Sample:





**Analyte**  
THCa  
Δ9-THC  
THCV  
CBDa  
CBD  
CBDV  
CBN  
CBGa  
CBG  
CBC

**Cannabinoids**  
068 HPLC3 20180312-1  
03/12/2018

**Pass**

**0.31%**  
Total THC\* (Calculated  
Decarboxylated Potential)

**8.16%**  
Total CBD\*\* (Calculated  
Decarboxylated Potential)

**9.78%**  
Total Cannabinoids Analyzed

**11.4%**  
Moisture  
**NR**  
Water Activity  
0.65 Limit  
Microbial Potential

Analyte	LOQ	Mass	Mass
	mg/g	%	mg/g
THCa	0.5	0.25	2.5
Δ9-THC	0.5	0.10	1.0
THCV	0.5	<LOQ	<LOQ
CBDa	0.5	8.24	82.4
CBD	0.5	0.94	9.4
CBDV	0.5	0.08	0.8
CBN	0.5	<LOQ	<LOQ
CBGa	0.5	<LOQ	<LOQ
CBG	0.5	<LOQ	<LOQ
CBC	0.5	0.17	1.7
<b>Total</b>		<b>9.78</b>	<b>97.8</b>

\*Total THC = THCa \* 0.877 + Δ9-THC.  
LOQ = Limit of Quantification; NR = Not Reported; ND = Not Detected

\*\*Total CBD = CBDa \* 0.877 + CBD.  
LOQ = Limit of Quantification; NR = Not Reported; ND = Not Detected



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Douglas Duncan  
Laboratory Director

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Laboratories testing for THC will sometimes show both the results for THCA as well as THC. Each cannabinoid is listed separated. But this usually will depend

upon the type of test used. For example, if a laboratory uses **High Performance Liquid Chromatography (HPLC)**, the THCA is not carboxylated and both THCA and THC will show up in the test. But if a laboratory uses **Gas Chromatography**, the THCA will be carboxylated, and therefore it will not show up in the test result. Results will only be given as THC. It should be noted that with gas chromatography, not all the THCA will convert to THC, so the THC reading may be lower.

## Federal Legislation

Both the 2014 farm bill and pending 2018 farm bill specifically state:

*“The term “industrial hemp” means the plant Cannabis sativa L. and any part of such plant, whether growing or not, with a delta-9 tetrahydrocannabinol concentration of not more than 0.3 percent on a dry weight basis.”*

The 2018 Farm Bill specifically states *“the procedure for testing, using post-decarboxylation or other similarly reliable methods, delta-9 tetrahydrocannabinol concentration level of hemp produced in the state or territory”*

## States That Define THC as being only Delta-9 THC

California  
Oregon  
Kentucky  
Colorado  
North Carolina  
North Dakota  
Minnesota

Other states may do so as well. It seems most of the states followed the 2014 Federal Farm Bill and defined THC to be Delta-9 THC.

## States Testing Methods

States Using **Gas Chromatography**: Colorado, Kentucky, and Indiana  
States Using **High Performance Liquid Chromatography (HPLC)**: Minnesota

Oregon does not specify a testing method, but they specify that the THC calculation includes THCA and labs need to keep their samples below 70 to avoid decarboxylation.

## Option 3

30 days prior to harvest **Pre-Harvest Report** sent to County Ag Commissioner

Sampling must be performed by the County Ag Commissioner. The County Ag Commissioner has the option of designating an ISO certified lab to collect the sample. A farm representative must be present when samples are taken.

Lab must follow COC consistent with State law and be documented to record the collection, transport and receipt of samples by the Ag Commissioner or lab.

Lab sends results to farmer and County Ag Commissioner's office.

Farmer sends harvest/destruction report to County.

County Ag Commissioner confirms destruction/remediation.

## DRAFT Industrial Hemp Sampling Guidelines for Testing for THC Content

### A. **Notification of Harvest Date –**

1. Registrants should inform the [SAMPLER TBD] of the following information:
  - i. Harvest date
  - ii. Variety
  - iii. Location
  - iv. Authorized representative
2. Registrants should inform the [SAMPLER TBD] of any changes to the above information no less than 5 days prior to scheduled sampling.

### B. **Sampling Timeframe –** Sampling should occur no more than 30 days prior to harvesting.

Samples should be collected prior to any harvest or destruction of plants. The registrant should coordinate with the [SAMPLER TBD] on a date and time for the collection of the samples. Any changes to the harvest date may require additional testing prior to harvest.

### C. **Site Verification –** [SAMPLER TBD] should verify collection site corresponds to registered location using GPS coordinates prior to the collection of samples.

### D. **Collection of Samples –** Samples should be collected by [SAMPLER TBD]. The registrant or an authorized representative should be present during the collection of samples and allow [SAMPLER TBD] access to all industrial hemp plants within the registered land area and all areas and facilities used for cultivation.

### E. **Sample Volume and Composition –**

1. A separate composite sample should be taken for each plant variety.
2. A separate composite sample should be taken for the same plant variety grown both indoors and outdoors.
3. A separate composite sample should be taken for each non-contiguous field.
4. Each composite sample should consist of at least five samples from different plants of the same plant variety.
  - i. Samples should include the plant's stem, stalks, flowers, leaves, seeds, and buds (all parts intended to be included in the extraction process).
  - ii. Samples should not be taken from male plants.
  - iii. [SAMPLER TBD] should avoid collecting samples near field edges.
5. Any abnormal plants should be sampled individually.

### F. **Sample Handling –**

1. Samples should be placed in a breathable bag (e.g. brown paper bag) and kept in a cool storage (between 45 and 90 degrees Fahrenheit) in a manner not conducive to mold.
2. Samples should be sealed in a manner to show evidence of tampering and labeled to show chain of custody. The chain of custody label should be signed by both the registrant or authorized representative and the inspector.
3. Samples should be labeled with identifying information
4. Samples should be delivered to the laboratory on the same day as collected.

### G. **Confirmation of Harvest**

1. [via a TBD harvest report]



## DRAFT Industrial Hemp Testing Guidelines for THC Content

- A. **Sample Preparation** – Each composite sample should be dried to a moisture content of no more than 13% and milled to a homogenous powder-like consistency to a 1 mm screen. No plant parts should be removed during the sample preparation process.
- B. **Sample Storage** –
- C. **Testing** – Each composite sample should be tested separately for THC content by [APPROVED TESTING ENTITY].
- D. **THC Testing Method** – Samples should be tested for THC content using gas chromatography with a flame ionization detector.
- E. **Sample Retention** – Samples with THC levels less than 0.3% should be retained by the laboratory for 30 days. Samples with THC levels more than 0.3% but less than 1.0% should be retained for 60 days.
- F. **Sample Disposal** –
- G. **Notification of Test Results** – Registrants should be notified of test results within 10 days of sampling.
- H. **Retesting of Harvested Material** – Plantings harvested prior to notification of the test results could retest if registrant kept each variety in properly identified separate lots throughout the drying, milling, and storage process. Co-mingling with other plantings or varieties will result in [ACTION TBD]. Registrants should be able to submit new samples from the harvested material for retesting.

**Commented [KJ1]:** Conflicts with both existing and proposed statute as written

[Note from CDFA: In addition to the above, are specific requirements necessary for other laboratory SOP's regarding: cross-contamination, identification of samples, sample size, sample storage, sample disposal, etc.?]

# **Industrial Hemp Advisory Board Crop Destruction Task Force**

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**IHAB – October 30, 2018**



# SB 1409 Amendments to Sec. 81006

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- (8) A registrant that grows industrial hemp shall destroy the industrial hemp grown upon receipt of a first laboratory test report indicating a percentage content of THC that exceeds 1 percent or a second laboratory test report pursuant to paragraph (7) indicating a percentage content of THC that exceeds three-tenths of 1 percent but is less than 1 percent. If the percentage content of THC exceeds 1 percent, the destruction shall begin within 48 hours, and be completed within 7 days, after receipt of the laboratory test report. If the percentage content of THC in the second laboratory test report exceeds three-tenths of 1 percent but is less than 1 percent, the destruction shall take place as soon as practicable, but no later than 45 days after receipt of the second test report.

# Revised Proposal To The IHAB

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In accordance with Section 81006, prior to harvest samples with a THC level greater than zero point three percent THC shall be reported by the approved lab to the California Department of Food and Agriculture (CDFA) and the grower/licensee. The grower/licensee must then submit a form to the County Agriculture Commissioner stating how the crop will be destroyed.

Confirmation of the destruction will be performed by the County Agriculture Commissioner. All costs for destruction will be paid for by the grower/licensee. The following destruction methods to render the final product less than zero point three percent THC are acceptable:



# Revised Proposal To The IHAB Cont.

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The crop may be incorporated back into the soil;  
incinerated or burned if allowed by local or state authorities, or;  
blended or composted with other organic matter and/or soil.

# **INDUSTRIAL HEMP PILOT PROGRAM**

**IHAB - October 30, 2018**



# California Law SB 1409

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Section **81007** is added to the Food and Agricultural Code, to read:

As part of the registration program established pursuant to this division, the department may establish and carry out, by regulation, an agricultural pilot program pursuant to Section 7606 of the federal Agricultural Act of 2014 (7 U.S.C. Sec. 5940) in accordance with the purposes of that section.

# 2014 Federal Farm Bill

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**SEC. 7606. Legitimacy of industrial hemp  
research**



## (a) In general

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- Notwithstanding the Controlled Substances Act (21 U.S.C. 801 et seq.), chapter 81 of title 41, or any other Federal law, an institution of higher education (as defined in section 1001 of title 20) or a State department of agriculture may grow or cultivate industrial hemp if-
- (1) the industrial hemp is grown or cultivated for purposes of research conducted under an agricultural pilot program or other agricultural or academic research; and
- (2) the growing or cultivating of industrial hemp is allowed under the laws of the State in which such institution of higher education or State department of agriculture is located and such research occurs.

## (b) Definitions

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### **(1) Agricultural pilot program**

The term "agricultural pilot program" means a pilot program to study the growth, cultivation, or marketing of industrial hemp-

(A) in States that permit the growth or cultivation of industrial hemp under the laws of the State; and

(B) in a manner that-

(i) ensures that only institutions of higher education and State departments of agriculture are used to grow or cultivate industrial hemp;

(ii) requires that sites used for growing or cultivating industrial hemp in a State be certified by, and registered with, the State department of agriculture; and

(iii) authorizes State departments of agriculture to promulgate regulations to carry out the pilot program in the States in accordance with the purposes of this section.



# Recommended Purposes of the Pilot Program

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- 1.) The purpose of the CDFA pilot program is to create a federally compliant program for California farmers to research the growth, cultivation and marketing of Industrial Hemp in California.
- 2.) This will open the doors to new markets in other states and countries.

# Recommended Role for CDFA

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The Board expects the CDFA to provide farmers a pathway to grow Federally compliant Industrial Hemp, as well as gather data on growth, cultivation and marketing of the crop.



# Recommended Data to be Collected Under Ag Pilot Program

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The pilot program will initially only gather data from the registration and destruction forms. Additional research can be added as the private or public sector deems it necessary.

- 1.) How many farmers are growing Hemp?
- 2.) How many acres are being grown?
- 3.) Is the acreage for Fiber, Grain, Oil Seed, Full Spectrum Plant Oils or other industrial purposes?
- 4.) What are the varieties being grown?
- 5.) How many acres had to be destroyed?

# CDFA INDUSTRIAL HEMP PILOT PROGRAM

## California State Law

### SB 1409

#### SEC. 6.

Section 81007 is added to the Food and Agricultural Code, to read:  
81007.

As part of the registration program established pursuant to this division, the department may establish and carry out, by regulation, an agricultural pilot program pursuant to Section 7606 of the federal Agricultural Act of 2014 (7 U.S.C. Sec. 5940) in accordance with the purposes of that section.

## Federal Law

PUBLIC LAW 113-79----Feb. 7 2014

### USC 5940. SEC. 7606. Legitimacy of industrial hemp research

#### (a) In general

Notwithstanding the Controlled Substances Act (21 U.S.C. 801 et seq.), chapter 81 of title 41, or any other Federal law, an institution of higher education (as defined in section 1001 of title 20) or a State department of agriculture may grow or cultivate industrial hemp if-

- (1) the industrial hemp is grown or cultivated for purposes of research conducted under an agricultural pilot program or other agricultural or academic research; and
- (2) the growing or cultivating of industrial hemp is allowed under the laws of the State in which such institution of higher education or State department of agriculture is located and such research occurs.

#### (b) Definitions

In this section:

##### (1) Agricultural pilot program

The term "agricultural pilot program" means a pilot program to study the growth, cultivation, or marketing of industrial hemp-

- (A) in States that permit the growth or cultivation of industrial hemp under the laws of the State; and
- (B) in a manner that-
  - (i) ensures that only institutions of higher education and State departments of agriculture are used to grow or cultivate industrial hemp;
  - (ii) requires that sites used for growing or cultivating industrial hemp in a State be certified by, and registered with, the State department of agriculture; and
  - (iii) authorizes State departments of agriculture to promulgate regulations to carry out the pilot program in the States in accordance with the purposes of this section.

##### (2) Industrial hemp



The term "industrial hemp" means the plant *Cannabis sativa* L. and any part of such plant, whether growing or not, with a delta-9 tetrahydrocannabinol concentration of not more than 0.3 percent on a dry weight basis.

**(3) State department of agriculture**

The term "State department of agriculture" means the agency, commission, or department of a State government responsible for agriculture within the State.

**Office of the Secretary, USDA; Drug Enforcement Administration, DOJ; Food and Drug Administration, HHS.**

ACTION:  
Notice

SUMMARY:

The U.S. Department of Agriculture, in consultation with the U.S. Drug Enforcement Administration and the U.S. Food and Drug Administration, has developed a Statement of Principles on Industrial Hemp to inform the public how Federal law applies to activities associated with industrial hemp that is grown and cultivated in accordance with Section 7606 of the Agricultural Act of 2014. The purpose of this notice is to set forth the statement in its entirety.

DATES:

This Statement of Principles is applicable August 12, 2016.

FOR FURTHER INFORMATION CONTACT:

Michael Poe, Telephone Number:(202) 720-3257.

SUPPLEMENTARY INFORMATION:

1. Statement of Principles

With publication of this notice, the U.S. Department of Agriculture (USDA) issues, with the concurrence of the U.S. Drug Enforcement Administration (DEA) and the U.S. Food and Drug Administration (FDA), the following Statement of Principles regarding the applicability of Federal laws to activities associated with growing and cultivating industrial hemp:

Section 7606 of the Agricultural Act of 2014 legalized the growing and cultivating of industrial hemp for research purposes in States where such growth and cultivation is legal under State law, notwithstanding existing Federal statutes that would otherwise criminalize such conduct. The statutorily sanctioned conduct, however, was limited to growth and cultivation by an institution of higher education or State

department of agriculture for purposes of agricultural or other academic research or under the auspices of a State agricultural pilot program for the growth, cultivation, or marketing of industrial hemp.

Section 7606 authorized State departments of agriculture to promulgate regulations to carry out these pilot programs but did not provide a specific delegation to the U.S. Department of Agriculture (USDA) or any other agency to implement the program. As well, the statute left open many questions regarding the continuing application of Federal drug control statutes to the growth, cultivation, manufacture, and distribution of industrial hemp products, as well as the extent to which growth by private parties and sale of industrial hemp products are permissible. Section 7606 did not remove industrial hemp from the controlled substances list. Therefore, Federal law continues to restrict hemp-related activities, to the extent that those activities have not been legalized under section 7606.

USDA, having consulted with and received concurrence from the U.S. Drug Enforcement Administration (DEA) and the U.S. Food and Drug Administration (FDA), therefore, is issuing this statement of principles to inform the public regarding how Federal law applies to activities involving industrial hemp so that individuals, institutions, and States that wish to participate in industrial hemp agricultural pilot programs can do so in accordance with Federal law.

■The growth and cultivation of industrial hemp may only take place in accordance with an agricultural pilot program to study the growth, cultivation, or marketing of industrial hemp established by a State department of agriculture or State agency responsible for agriculture in a State where the production of industrial hemp is otherwise legal under State law.

■The State agricultural pilot program must provide for State registration and certification of sites used for growing or cultivating industrial hemp. Although registration and certification is not further defined, it is recommended that such registration should include the name of the authorized manufacturer, the period of licensure or other time period during which such person is authorized by the State to manufacture industrial hemp, and the location, including Global Positioning System coordinates, where such person is authorized to manufacture industrial hemp.

■Only State departments of agriculture, and persons licensed, registered, or otherwise authorized by them to conduct research under an agricultural pilot program in accordance with section 7606, and institutions of higher education (as defined in section 101 of the Higher Education Act of 1965 (20 U.S.C. 1001)), or persons employed by or under a production contract or lease with them to conduct such research, may grow or cultivate industrial hemp as part of the agricultural pilot program.

■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 concentration of not more than 0.3 percent on a dry weight basis. The term “tetrahydrocannabinols” includes all isomers, acids, salts, and salts of isomers of tetrahydrocannabinols.

■For purposes of marketing research by institutions of higher education or State departments of agriculture (including distribution of marketing materials), but not for the purpose of general commercial activity, industrial hemp products may be sold in a State with an agricultural pilot program or among States with agricultural pilot programs but may not be sold in States where such sale is prohibited. Industrial hemp plants and seeds may not be transported across State lines.

■Section 7606 specifically authorized certain entities to “grow or cultivate” industrial hemp but did not eliminate the requirement under the Controlled Substances Import and Export Act that the importation of viable cannabis seeds must be carried out by persons registered with the DEA to do so. In addition, any USDA phytosanitary requirements that normally would apply to the importation of plant material will apply to the importation of industrial hemp seed.

■Section 7606 did not amend the Federal Food, Drug, and Cosmetic Act. For example, section 7606 did not alter the approval process for new drug applications, the requirements for the conduct of clinical or nonclinical research, the oversight of marketing claims, or any other authorities of the FDA as they are set forth in that Act.

■The Federal Government does not construe section 7606 to alter the requirements of the Controlled Substances Act (CSA) that apply to the manufacture, distribution, and dispensing of drug products containing controlled substances. Manufacturers, distributors, dispensers of drug products derived from cannabis plants, as well as those conducting research with such drug products, must continue to adhere to the CSA requirements.

■Institutions of higher education and other participants authorized to carry out agricultural pilot programs under section 7606 may be able to participate in USDA research or other programs to the extent otherwise eligible for participation in those programs.

## 2. Regulatory Requirements

This Statement of Principles does not establish any binding legal requirements. It is, therefore, exempt from notice and comment rulemaking requirements under the Administrative Procedure Act pursuant to 5 U.S.C. 553(b). Because no notice of proposed rulemaking is required, the Regulatory Flexibility Act does not require an initial or final regulatory flexibility analysis. 5 U.S.C. 603(a), 604(a). USDA has determined that this Statement of Principles does not impose any new or revise any existing recordkeeping, reporting, or disclosure requirements on covered entities or members of the public that would be collections of information requiring OMB approval under the Paperwork Reduction Act, 44 U.S.C. 3501, et seq.

Dated: July 25, 2016.

Proposed Amendment to the List of Approved Seed Cultivars  
For Consideration by the Industrial Hemp Advisory Board  
at its Meeting on [date TBD]

**In Title 3, California Code of Regulations, Division 4, Chapter 8, Article 2, adopt:**

**§ 4920. List of Approved Seed Cultivars.**

- (a) The Secretary, as provided in Section 81002 of the Food and Agricultural Code, adopts the following list of approved seed cultivars.
- (1) Industrial hemp seed or propagative materials certified as breeder, foundation, registered, or certified seed or stock by one of the following agencies:
- (A) Member organizations of the Association of Official Seed Certifying Agencies,
  - (B) Organization of Economic Cooperation and Development, or
  - (C) An officially approved and recognized seed-certifying agency listed in Title 3, California Code of Regulations, Section 3875, as provided in Section 52401 of the Food and Agricultural Code.
- (2) Industrial hemp seed or propagative materials produced in a quality assurance program approved by one of the following agencies:
- (A) Member organizations of the Association of Official Seed Certifying Agencies,
  - (B) Organization of Economic Cooperation and Development, or
  - (C) An officially approved and recognized seed-certifying agency listed in Title 3, California Code of Regulations, Section 3875, as provided in Section 52401 of the Food and Agricultural Code.
- (3) Industrial hemp seed or propagative materials produced by a licensed participant in a state industrial hemp agricultural pilot program, pursuant to Section 7606 of the federal Agricultural Act of 2014 (7 U.S.C. Sec. 5940).
- (A) The crop from which the seed or propagative materials were harvested from shall have been tested **by the licensing authority in the state of origin** and found to have no more than three-tenths of one percent tetrahydrocannabinol (THC) on a dry weight basis.
  - (B) The commissioner shall be notified of the importation of all propagative materials other than seed **into the county. The shipment is subject to inspection by the commissioner and shall not be used for cultivation until released by the commissioner.**
- (4) Industrial hemp seeds or tissue culture plants imported from outside the United States that meets federal importation requirements.

- (A) The crop from which the seeds or tissue culture plants were harvested from shall have been tested **by the department of agriculture in the country of origin** and found to have no more than three-tenths of one percent THC on a dry weight basis.
  - (B) The commissioner shall be notified of the importation of all propagative materials other than seed **into the county. The shipment is subject to inspection by the commissioner and shall not be used for cultivation until released by the commissioner.**
  - (C) For the purposes of this section, the term “tissue culture” means in vitro material introduced into culture from nodal cuttings at a particular time and from a single plant and grown in aseptic conditions to be used as a source of propagative material.
- (5) Industrial hemp seed or propagative materials produced in California in accordance with the provisions of Division 24 of the Food and Agricultural Code and this chapter.
- (A) The crop from which the seed or propagative materials were harvested from shall have been tested **by a department-approved laboratory** and found to have no more than three-tenths of one percent THC on a dry weight basis.
  - (b) Upon request from the commissioner, a registrant shall provide documentation confirming that any seeds or propagative materials are on the list of approved seed cultivars

Note: Authority cited: Sections 407 and 81002, Food and Agricultural Code  
Reference: Sections 81001 and 81002 Food and Agricultural Code

Dear Committee members,

We have been attending and following your meetings since their inception and are interested in growing hemp next year under your direction. We recently followed the limited protocol for sampling and testing of some CBD plants that we grow under personal use and we were at a loss in terms of advising our local lab about a testing protocol for hemp. This is a lab that has been doing cannabis testing for years. We brought in our wet sample and told them it needed to be tested at no more than 13% moisture content. They were unsure about how to deal with the wet sample (since most of their samples come to them previously dried), whether to dry it in an oven or dry ice. They ended up using dry ice, yet didn't have a mechanism for testing moisture. In other words, they were not accustomed to dealing with wet samples and therefore we were not confident in the test results. This is a lab on your list of BCC Testing License list.

We feel that California needs to have a testing protocol for labs to follow for hemp wet samples. Sample size and type, handling, drying and test protocol. Otherwise, results will be wildly variant. We are attaching Oregon's protocol for your information.

Additionally, we recommend that for the sampling collection that both options be available to the grower, testing lab and/or Agricultural Commissioner.

Thank you for your attention. Lisa Brown and Kevin Johnson  
mingobaby@gmail.com



## Exhibit B: Testing Protocol Industrial Hemp Pre-Harvest Testing

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To be sufficient to meet the requirement for pre-harvest THC sampling and testing under OAR Chapter 603, Division 48, testing must be conducted as described in this Protocol.

### A. Testing Requirements

1. Testing may only be performed by a laboratory licensed by the Oregon Liquor Control Commission (OLCC) under ORS 475B.560 and accredited by the Oregon Health Authority (OHA) pursuant to ORS 475B.565 to sample and test for tetrahydrocannabinol (THC) content (hereinafter, Laboratory)<sup>1</sup> or the Oregon Department of Agriculture (ODA).
2. All testing must be performed by personnel employed by a Laboratory and in accordance with OAR 603-048-0600 and this Protocol.
3. The Laboratory must follow chain of custody procedures consistent with TNI EL Standard VIM2 5.7 and 5.8 and be documented to record the collection, transport, and receipt of samples by the Laboratory.
4. Testing must be conducted in compliance with OAR 333-064-0100(3) – (7) except that the Laboratory need not test or report CBD values.
5. Until the Laboratory develops its own criteria, sample or matrix spike recovery must fall between 70-130 percent. The Laboratory must develop its own criteria after obtaining 30 data points and the sample or matrix spike recovery must fall between 70-130 percent or within more restrictive acceptance limits. Until the Laboratory develops its own criteria, the Relative Percent Difference (RPD) between duplicates must be less than or equal to 20 percent. The Laboratory must develop its own criteria after obtaining 30 data points and the sample/sample duplicate RPD must be less than or equal to 20 percent or fall within more restrictive acceptance limits. The Laboratory shall include at least one sample or matrix spike and one set of duplicates to assess accuracy and precision for each extraction batch.
6. The Laboratory must perform testing under their Quality Management system as defined by their ORELAP accreditation.
7. The Laboratory must perform testing in a manner that avoids contamination of the non-sampled material with sample containers that are free of analytes of interest and appropriate for the analyses requested.
8. The Laboratory's test method and preparation steps shall avoid decarboxylation of (-)-delta 9-trans-Tetrahydrocannabinolic acid (THCA).
9. The Laboratory must determine the percentage of THC in the sample on a dry weight basis.

<sup>1</sup> Note that the sampling of industrial hemp for pre-harvest THC concentration itself is not accredited by OHA.

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## B. Initiating a Testing Request

1. The Laboratory must receive a complete Industrial Hemp Sampling and Testing Request Form prior to testing. The Laboratory must receive a new and separate “Harvest Lot Sampling Request Description” for each Harvest Lot to be tested.
2. The Laboratory must receive a complete Industrial Hemp On-Site Sampling Form prior to testing. The Laboratory must receive a new and separate “Harvest Lot On-Site Sampling Description” for each Harvest Lot to be tested.
3. A “Harvest Lot” means:
  - a. Means a quantity of industrial hemp harvested in a distinct timeframe that is:
    - i. Grown in one contiguous production area within a grow site; or
    - ii. Grown in a portion or portions of one contiguous production area within a grow site.
  - b. Does not include a quantity of industrial hemp comprised of industrial hemp grown in noncontiguous fields or noncontiguous growing areas.<sup>2</sup>

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## C. Sample Preparation Requirements

1. The Laboratory shall dry all of the leaf and flower of the sample (not obvious stem and seeds) until brittle in a manner that does not exceed 70°C and maintains the THC level of sample (at temperatures greater than 70°C, decarboxylation of THCA to THC occurs).
2. After drying, the Laboratory shall pulverize and sieve the sample using mesh size 1 mm as described in United Nations Office on Drugs and Crime: Recommended Methods for the Identification and Analysis of Cannabis and Cannabis Products. ISBN 978-92-1-148242-3. The Laboratory shall blend and homogenize the sieved material.
3. The Laboratory shall determine the dry weight of the sieved material.
4. The Laboratory shall divide the sieved, blended and homogenized sample into two portions: the test portion and the retained file sample. The Laboratory shall store the retained file sample in a freezer until needed. The retained file sample must be of sufficient material to conduct any requested retest and any quality control performed by the testing Laboratory.

## D. Retesting Requirements

1. The Laboratory shall retest a Harvest Lot upon receipt of a completed Request for Retest from a grower. “Retest” or “Retesting” means the laboratory process of retesting a retained file sample for THC content after the sample failed initial testing for THC content. A retest does not include or permit taking a new sample from the harvest lot. OAR 603-048-0010(16).
2. The Laboratory shall forward the retained file sample to another Laboratory or to the ODA upon receipt of a completed Request for Retest from the grower requesting that the sample be forwarded. The Laboratory shall:
  - a. Use packaging appropriate for secure transport.
  - b. Protect the sample from moisture and temperature extremes.

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<sup>2</sup> OAR 603-048-0010(9).

- c. Include all documentation with the sample.
- d. Forward the sample by the most expedient, secure, and legal means to ensure that the sample continues to be representative of the harvest lot sampled and the chain of custody is accounted for to protect its integrity.

#### **E. Testing After Resampling**

1. The Laboratory may test a Harvest Lot after a valid resampling in accordance with OAR 603-048-0625.
2. The Laboratory shall conduct testing after a resampling like any other testing in accordance with this protocol.
3. The Laboratory shall report the test results as described in Part F of the Protocol, but shall indicate that the result is pursuant to resampling.

#### **F. Reporting and Recordkeeping Requirements**

1. All documentation of sampling and testing must be retained by the Laboratory for at least three years and be provided to the Department upon request. All records must clearly identify the harvest lots by harvest lot identifier.
2. The Laboratory shall make Standard Operating Procedure (SOPs) readily accessible to all pertinent personnel and provided to ODA upon request.
3. All documents shall be controlled and retained in accordance with the TNI Environmental Laboratory standard as defined in OAR 333-007-0310.
4. When testing or forwarding the sample, the Laboratory must create and use a Chain of Custody form with the information set out below.
  - a. Laboratory name
  - b. Analyst's name
  - c. Lab License Number
  - d. Field ID/Name and Harvest Lot Identifier
  - e. Testing Date/Time
  - f. Custody transfer signatures
  - g. Custody Transfer Dates/Times
5. The Laboratory shall determine the estimated measurement uncertainty (EMU) of the test for THC concentration of industrial hemp and make available to the ODA upon request.
6. The Laboratory shall provide to ODA upon request analytical data and any records associated with test results reported, including SOPs, chain of custody forms, quality checks, EMU determination, etc.
7. The Laboratory shall report percentage of THC in the sample on a dry weight basis to exactly two significant figures.
8. The Laboratory shall report all test results electronically to the Department at HempTestReports@oda.state.or.us using the forms provided by the Department, and include for each sample tested:
  - a. Grower's name and registration number;
  - b. Sample date;
  - c. Sample size by weight;

**Deleted:** If any of the above information requested is unavailable, indicate "N/A" in the appropriate space. All testing report forms must be signed by the analyst.

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<#>Final Mass of composite sample

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- d. Testing date;
  - e. Tetrahydrocannabinol percentage to exactly two significant figures;
  - f. The harvest lot identifier that corresponds to the sample and the location of the corresponding harvest lot;
  - g. Copy of grower's sampling request form corresponding to the harvest lot;
  - h. Copy of the completed sampling form corresponding to the harvest lot;  
and
  - i. Signature of the laboratory analyst.
9. The Laboratory shall send any failed test report electronically to the Department at HempTestReports@oda.state.or.us using the forms provided by the Department **within 24 hours of the failed test.**
10. The Laboratory shall send completed copies of the Sampling and Request Form and the On-Site Sampling Form corresponding to the Harvest Lot with each test report.

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**From:** Dennis Wells  
**Date:** October 5, 2018 at 2:11:02 PM PDT  
**To:**  
**Subject:** Re: Hemp

Good afternoon,

We test for d-9 THC only, however, I understand that there is a new rule change being considered that may change that.

The limit is 0.3 % dry weight reported to one decimal place so the ODA will accept any result up to 0.35 % due to rounding.

I don't know the rule on destruction of Hemp.

I hope that helps you.

Have a pleasant and productive day,

***Dennis Wells***

**Director of Operations**

**7405 SW Tech Center Drive Suite A160**

**Tigard, Oregon 97223**

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On Fri, Oct 5, 2018 at 1:24 PM Richard Soria wrote:

Hi Dennis,

I'm on the California industrial Hemp Advisory Board. Hemp is not yet legal in Ca. as you know. The Governor signed a bill last week (SB 1409) and it will go into law in January 2019. This bill will legalize the growing of Hemp. Brianna sent me your rules & regulation and that answered most of my questions. I have a few more. Do you just test for Delta 9 THC? If the sample test is above .03% & above 1% , what is waiting time before the crop is destroyed. If the crop is destroyed, how is it

done.  
Sent from my iPhone

Thank You Richard Soria