

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

1220 N Street, Auditorium
Sacramento, CA 95814

Thursday, January 18, 2018
9:00 AM – 1:00 PM

Board Members

Van Butsic
Eric Carlson
Rick Gurrola
Allison Justice
Matt McClain (absent)
Valerie Mellano (absent)
Tom Pires
David Robinson
John Roulac
Lawrence Serbin
Richard Soria

CDFA & Guests

Ariana Alstine
Mike Avila
Steve Beck
John Benson
Adam Berkowitz
Chris Boucher
Michael Bowman
Valerie Brott
Jeff Chedester
Michael Crook
Ambrose Curry
Sean Dayyani
Labua Deinai
Tony deVeyra
Reed Diehl
Karen Dixon
Doug Fine
Victor Francovich
Eve Get
Tyler Haff
John Heaton
Jimmy Hook
Kevin Johnson
Janice Jurado
Joshua Kress
Natalie Krout-Greenberg
Joe Livaich

Chris Marconi
David Mazzera
Thomas Mershon
Jered Micheli
Alex Mkandawire
Kevin Moats
George Mull
Tim Pelican
Michelle Pham
Wayne Richman
Gabe Rivera
Jane Roberti
Roy Rodriguez
Rafiq Rvadi
Robin Sanchez
Tracy Saville
Dodee Schmitt
Jon Swaner
Jeff Takahashi
Riki Trowc
William Vallonc
Mark Vargas
Fred Vickers
Chris Warchy
Brian Webster
Marie Ziegel

1. Roll Call and Opening Remarks

Meeting called to order at 9:17 AM by Eric Carlson, Board Chair. Joshua Kress, Program Supervisor of the CDFA Nursery, Seed, and Cotton Program, reviewed general housekeeping information, and Board members and Program staff provided self-introductions.

Kress reminded board members to submit required documentation, including annual Statements of Economic Interests (Form 700) and travel expense claims.

2. Review of Minutes from June 29, 2017 and October 19, 2017 Board Meetings

The draft minutes from the June 29, 2017 Board Meeting were presented to the Board. No changes were requested.

Eric Carlson moved to accept the minutes for the June 29, 2017 Board Meeting as presented. Lawrence Serbin seconded the motion.

The Board voted on the motion as follows:

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

Motion carried.

The draft minutes from October 19, 2017 Board Meeting were presented to the Board. No changes were suggested. No motion was made. The minutes will be presented to the Board again for approval at the next meeting.

There were no public comments regarding this item.

3. Brief Overview of Current California Industrial Hemp Laws

Kress noted that no changes to California law relating to industrial hemp were proposed in 2017. Kress gave a brief overview of the existing law, highlighting:

- The law originally passed in 2013, and was made effective January 1, 2017 by Proposition 64.
- The law established the IHAB to advise the Department on activities relating to industrial hemp.
- The law defined established agricultural research institutions.
- The law created a registration program through the county agriculture commissioners for commercial cultivation and seed breeders.
- The law limited the cultivars to be grown in California by commercial growers.
- The law set requirements for planting.
- The law set requirements for sampling and testing for THC content.
- The law set requirements for reporting for the Board and the Attorney General.
- There were no regulations regarding industrial hemp cultivation at that time.

An unidentified member of the public asked if elevated THC levels were found in industrial hemp plantings in other states. Kress responded that he was aware of industrial hemp crops detected in other states with THC content greater than 0.3%.

An unidentified member of the public asked for confirmation that CDFA will not promulgate regulations for approving new seed cultivars. Kress responded that the IHAB discussed the statute regarding approved seed cultivars at the June 29, 2017 Board Meeting, and that the IHAB chose not to revise the list of approved seed cultivars at that time.

George Bianchini recommended providing outreach and education to county agriculture commissioners and other local officials on the status of industrial hemp, relating to Proposition 64.

Wayne Richman, Executive Director of the California Hemp Association, asked about the authority of county agricultural commissioners under California Law and Section 7606 of the Federal Farm Bill.

Kress stated California law did not specify whether counties had authority restrict or prohibit the cultivation of industrial hemp or to take actions that are authorized under federal law, such as applying for federal importation permits. Kress explained that CDFA worked with commissioners on a case-by-case basis pending further clarity through legislation and regulation.

Tom Pires asked what was needed for growers to begin cultivation in Spring 2018. Kress clarified that registration was required for all growers except for established agricultural research institutions, and that regulations for the registration fee must be in place for registration to begin.

George Mull, President of the California Cannabis Association, commented that the definition of established agricultural research institutions did not require it to be an institution of higher education or a public institution.

Kress noted the IHAB passed a motion at the October 19, 2017 for CDFA to pursue regulations to provide structure and guidance to the county agricultural commissioners and local law enforcement on confirming an exemption for a planting. Kress also noted that federal law defines established agricultural research institutions as institutions of higher education.

Mull added his concerns with a grower complying with California law, while being in violation of federal law.

Chris Marconi, Redtail Ranch, asked about the definition of established agricultural research institutions. Kress clarified that the definition did not require that the institution be a non-profit organization. After further discussion, Kress also clarified that there were not yet any legislative proposals for the current session, and that any proposal during 2018 would likely not take effect until January 1, 2019.

There were no motions regarding this item.

4. CDFA Program Activities Update

Kress provided a brief update on Program activities since the previous meeting, and noted the status of outstanding motions by the Board.

As recommended by the Board at the June 29, 2017 Board Meeting, the Program had developed a guidance document (attached) to clarify the status of established agricultural research institutions, and had posted it on the Program's webpage.

Kress stated that the Department had preliminary conversations with the University of California regarding the authority and legal status for conducting research on industrial hemp.

Van Butsic added that the University of California system put together a blue-ribbon commission to study how the universities would conduct both industrial hemp and cannabis research. Busic reported that he was aware of at least one industrial hemp research project led by a cooperative extension specialist that had begun working with the U.S. Drug Enforcement Administration to obtain approval for importation of seeds. Busic added that the University of California system was very concerned with complying with both state and federal law due to the high level of federal funding received.

As recommended by the Board at the October 19, 2017 Board Meeting, the Department had begun developing rulemaking packages to provide guidance on interactions between county agricultural commissioners and established agricultural research institutions, and to establish a registration fee structure. The Board and the public would be notified once any proposed regulations were available for review and comments.

As recommended by the Board at the October 19, 2017 Board Meeting, the Department had started the process to hire a full-time employee to work on the Program. Interviews had been conducted, and the hiring would continue in accordance with the civil service hiring process.

Carlson moved to set a maximum registration fee of \$1,500 (\$1,000 to cover the State's cost and \$500 for the county's cost) per registrant, and for the fee to be re-evaluated by the Board prior to October 31, 2020. After some clarification of the motion, Serbin seconded the motion.

Rick Gurrola explained that \$500 may not cover the counties' costs, and noted that any proposed fees should include full cost recovery.

Carlson responded that the proposed maximum was for the base costs of county administration, and did not include additional fees for acreage, sampling, or testing. Kress noted that the law did not provide authority for multiple fees, and that it required full cost recovery for counties. Kress clarified that the proposed fee structure from the previous meeting did not provide for separate fees for other activities, and recommended further discussion by the Board to consider incorporating any other proposed fees into the fee structure being proposed by Carlson.

John Roulac commented that he understood Carlson's intention with the motion, but he recommended having further discussion with county agriculture commissioners to understand the counties' costs, and that the Board could revisit the fee structure the following year.

Carlson expressed his concern with excessive fees in other states, and recommended setting limits to ensure that fees established by the counties were reasonable.

Gurrola clarified that county agricultural commissioners make recommendations on fee structures based on actual costs to their county boards of supervisors. Gurrola further explained the process for establishing county fees, and added that counties could not determine actual costs until the counties' roles for registration and enforcement were better defined.

David Robinson noted that if the county could not fully recover its costs, then the board of supervisors was likely to seek to prohibit registration in that county. Robinson recommended tabling this motion for further discussion at a future meeting.

The Board further discussed what other components could be included in a fee structure and the county's role in registration and enforcement as defined in California law.

Carlson agreed to table the motion for further discussion at a future meeting.

Mull commented that a registration fee should only cover the review an application, and that additional costs should be charged on an hourly rate. Kress clarified that the registration fee was required by law to fully recover all actual costs for the program. Mull asked if registrants could be refunded any portion of the registration fees above actual costs. Kress clarified that the Board

was responsible for providing oversight for the State's costs and corresponding revenue, and that other costs and fees would be dealt with at the county level.

Karen Dixon, Schiavi Seeds, recommended that the Board review and consider as an example Kentucky's grower application packet and schedule of fees, as well as its established testing protocols and guidelines.

An unidentified member of the public expressed concerns regarding testing costs, and suggested allowing private certified laboratories to perform the required testing.

Riki Trowc commented that hemp was tested throughout the year in Oregon, and he expressed concern that independent testing would not be practicable for California. Trowc also recommended creating industry working groups to further investigate and develop fee structures.

An unidentified member of the public expressed concerns regarding sampling and testing methods, potential contamination of crops, crop destruction determinations, and seed certification.

Richman recommended setting deadlines and an overall timeline for establishing registration of growers.

Chris Boucher expressed concerns with county boards of supervisors setting registration fees.

Bianchini commented that fees should be similar to those charged for other agricultural commodities. Bianchini expressed concerns with setting additional requirements when not specifically required by law. Bianchini also mentioned a situation where a planting was destroyed in San Joaquin County, and noted that he had filed a lawsuit in federal court regarding this situation.

An unidentified member of the public recommended the Board to act as quickly as possible so that registration could begin.

Tracey Seville recommended that the industry should join together to provide guidelines and assist the counties as a group.

Brian Webster, California Hemp Association, recommended that the Board meet more frequently to provide for registration sooner.

5. Industrial Hemp Seed and Plant Importation Requirements

Kress noted that the Department contacted the US Drug Enforcement Administration (DEA) to present to the Board and/or provide written guidance on industrial hemp seed and plant importation requirements. The DEA was unable to provide this guidance in time for the meeting, but the Department would continue to reach out to the DEA for more information on this topic.

Kress stated that California did not have specific requirements for the importation of industrial hemp. He noted that the international and interstate importation of industrial hemp was subject to federal law, administered by the DEA.

Kress noted there were currently no known quarantine pests or pathogens specific to industrial hemp seeds and plants coming into California. Kress listed general pests of concern associated with soil that may be applicable to the importation of potted industrial hemp plant material:

Japanese beetle, burrowing and reniform nematode, ozonium root rot, and red imported fire ant. Kress also noted pests like gypsy moth and spotted lantern fly that lay egg masses on any stationary object and are commonly inspected for at California's agricultural inspection stations.

Kress encouraged anyone importing any plant material to work with the origin department of agriculture before shipping into California.

There were no motions or public comments regarding this item.

6. Procedures for Certification of Seed

Doug Fine presented his work on industrial hemp variety development and independent farmer advocacy (attached).

Fine stressed the importance of easy access to U.S.-grown varieties, and noted the example of varieties domestically developed and grown in Vermont versus European varieties grown in Washington. Fine recommended allowing farmers to develop new varieties and to make certification obtainable for all. Fine used Colorado as an example of domestic variety development resulting in robust varieties highly adapted to local environments. Fine advocated for legislative change, if necessary, to provide for the development and certification of domestic varieties.

Alex Mkandawire, California Crop Improvement Association (CCIA), presented information on industrial hemp seed certification procedures (attached).

Mkandawire provided a brief overview of CCIA, hemp regulatory information, the variety certification process, and new domestic varieties certified by member agencies of the Association of Official Seed Certifying Agencies (AOSCA). Mkandawire also noted that CCIA was scheduled to review and discuss certified industrial hemp varieties and seed certification standards for California for approval in February 2018, and provided the Board with a copy of the proposed varieties and draft standards (attached).

An unidentified member of the public asked about submitting additional varieties for CCIA approval. Mkandawire noted required information for such a request, and suggested that interested parties contact him for more information.

Bianchini asked about whether both male and female plants were tested for THC content or just female plants.

Carlson noted the limited international seed supply to meet the demand, and encouraged domestic growers to submit varieties with potential to CCIA for certification.

7. Review of Registration Application Templates

Kress presented drafts of the Industrial Hemp Grower Registration Form and the Industrial Hemp Seed Breeder Registration Form (attached) which would be provided to the county agriculture commissioners for adaptation. Kress reviewed the application information required under California Food and Agricultural Code (FAC) Sections 81003 and 81004, and noted that some minor additional information was added to ensure that county and state staff could contact and track registrants, including email address, phone number, and a registration number. Kress noted that including additional information on the application may require regulations. Kress requested comments from the Board.

Richard Soria asked for clarification regarding the section denoting whether the crop was being grown for grain or fiber. Kress responded that this information was required in FAC § 81003(a)(1)(C), and noted that the Board could recommend additional categories or further define these terms, but that such action may require regulations. Soria expressed concern with defining a crop's purpose with regards to pesticide application.

Roulac asked if the information on the application would be tabulated for statewide statistics. Kress responded the counties were required to forward a copy of the applications to the Department, and that Program staff would enter the information into a database. Kress stressed the importance of having consistency in the applications used by each county so that the data could be analyzed and presented to the Board. Kress noted limitations on making certain the information collected available to the public due to rules on confidential business information.

Roulac suggested adding a question on if a crop was certified organic on the application, and asked if regulations are required to do so. Kress noted that CDFA's State Organic Program collected information by crop, which could likely be provided to the Board if needed. Kress stated that CDFA could likely add survey questions to the application for informational purposes, but the Program would need to further explore if regulations would be required.

Serbin suggested that the form more clearly state that the registration was for a two year period, and noted that CBD production was not included as an option for purpose of cultivation. Kress responded that the program would note that the application was for bi-annual registration at the top to provide additional clarity. Kress explained that if the Board would like to add additional categories on the application, the Department would explore this further to determine authority and if regulations were required. Allison Justice suggested including an "other" category to capture those functions that were not include in the law.

Carlson agreed with Roulac that collecting data regarding organic certification would be valuable to the Board and industry. Kress responded that an optional survey question could likely be added or attached to the application regarding interest in organic certification. Kress also noted that the Program was in discussion with the State Organic Program to determine the legal status and feasibility of organic certification for registered industrial hemp growers in California.

Dixon asked if the Department would have a database for seed production to help with isolation distances required for seed development. Kress noted that the law required GPS coordinates on the application, and that the Department had the capability to map the locations. He added that CCIA maintained maps of every certified production field to ensure distance requirements for certification were met. Kress commented that the use of GPS coordinates could be explored further if needed in the future.

Richman commented on his appreciation for the one-page application and asked how soon the application would be available. Kress responded that the Program would coordinate with the county agricultural commissioners on the distribution of the application template, and noted that registration of growers required establishment of a fee structure, which required regulations in accordance with the Administrative Procedures Act. Kress noted that once the regulation was established as recommended by the Board, the county board of supervisors would then be able to establish a corresponding fee structure locally. Kress noted that the Department had begun developing the rulemaking package relating to the Board's motion, and briefly overviewed the rulemaking process.

Richman recommend that the Board establish a subcommittee to create a strategic timeline to accomplish regulatory writings. Richman added that he would like to see the Board meet more frequently until registration was available.

Roulac commented that he understood the frustration due to the uncertainty, and expressed that the current law required changes through further legislation to address the lack of clarity and concerns with the law. Carlson noted that an effort to add emergency regulation authority to the law had failed in November 2017. Roulac and Carlson both recommended that the industry lobby for legislative changes to clarify the law.

Richman commented that the hiring of a lobbyist should not be necessary for the industry to seek legislative change, and that the California Hemp Association would not be hiring a lobbyist for this or any other effort.

Kress asked that further comments for this agenda item focus on the application and application process, and reminded attendees that there would be an opportunity for additional public comments later.

Justin Eve commented that adding a question regarding organic certification on the application was unnecessary. Eve asked for clarification regarding CCIA and seed certification. Kress responded the law required the use of approved seed varieties certified by a member agency of the organizations listed, and noted that CCIA was a member agency, and was the recognized certifying agency for California. John Heaton noted that CCIA was designated as the official seed certifying agency for California in the California Seed Law.

Eve asked for clarification regarding CBD production. Kress responded cannabinoid production was not addressed in the law. After comment, Kress clarified that the definition of industrial hemp included hemp grown for CBD production, but noted that the current law did not address CBD production in its description of purposes for cultivation.

Eve asked if the industry or members of the public could provide financial resources or manpower to expedite the process and start registration. Noting a question at the previous meeting, Kress responded that funds from loans for Proposition 64 were specifically allocated to fund certain activities, which did not include any code sections related to industrial hemp, and that public agencies, such as CDFA, could not accept funds that were not appropriated by the Legislature.

Chris Boucher recommended requiring a map attached to the application in addition to the GPS coordinates to assist inspectors. Boucher agreed with earlier comments regarding the importance of collecting information on organic certification, and agreed with Richman's recommendation for establishing a timeline for actions by the Board and CDFA.

Kevin Johnson agreed with Justice's suggestion to include an "other" on the application to allow for the wide range of possible applications of industrial hemp in the future.

Bianchini recommended including a checkbox on the application for established agricultural research institutions. Kress responded that established agricultural research institutions were exempt from registration by law. Kress noted that a motion was made at the October 19, 2017 Board Meeting for CDFA to develop a process that allows established agricultural research institutions to voluntarily notify the State of industrial hemp cultivation.

8. Sampling Guidelines for THC Testing

Prior to starting the conversation on this item, Carlson noted that at the break he had received confirmation that new legislation regarding industrial hemp had been submitted for consideration during the current legislative session.

Carlson explained that commercial growers were required to submit for THC testing to a DEA-registered laboratory. He noted issues regarding sampling and testing that had been experienced in other states. Carlson expressed concerns regarding shipment of samples, costs, and the lack of standardized sampling and THC testing guidelines.

Gurrola recommended that the Board hold a meeting strictly to discuss sampling and testing procedures soon to provide guidance to the county agricultural commissioners on their roles and responsibilities and ensure consistent enforcement.

Robinson recommended that sampling and testing be the grower's responsibility, rather than place additional burdens on county inspectors and create additional fees for the registrants.

After comment, Carlson expressed concerns regarding using private laboratories, including variation in testing results and contamination from medical and adult-use cannabis samples. Carlson suggested having plant and soil laboratories from the UC Cooperative Extension system perform THC testing.

Butsic stated that he was not familiar with any UC laboratories that would conduct this type of testing, but noted that UC researchers may be able to recommend laboratories that they use for testing.

Carlson agreed with Gurrola's recommendation to hold a meeting specifically to discuss sampling and testing protocols.

After a brief discussion, Gurrola recommended that the Board establish a subcommittee to further investigate this issue and report back to the Board for a recommendation.

Kress noted that the Board Chair could appoint members of a subcommittee or task force and identify subject matter experts. He added that this meeting would be publicly noticed and minutes provided.

Butsic recommended that the Chair establish a task force to provide a report back to the Board at the next meeting.

Soria and Justice volunteered to lead this effort.

The Board further discussed subject matter experts to participate in this effort, including a licensed cannabis testing laboratory, state laboratories that perform industrial hemp testing, and state regulatory programs for industrial hemp cultivation.

After discussion, Carlson established a Sampling and Testing Task Force, led by Justice and Soria. Carlson requested that Justice and Soria work with Program staff to meet with subject matter experts to discuss THC sampling and testing procedures, and to report back to the Board with their findings at the next meeting.

Richman recommended to not require DEA registration of laboratories. He recommended using ISO/IEC accredited laboratories, and that an interested laboratory could easily use separate testing equipment placed in a separate room from other cannabis samples to avoid cross-contamination.

Webster noted that the Association of Commercial Cannabis Laboratories (ACCL) had established standards that member laboratories were required to follow, and that the ACCL included members throughout California.

9. Industrial Hemp and the California Seed Law

Kress presented a brief overview of the rules for industrial hemp with relation to the California Seed Law (attached).

The Federal Seed Act regulations listed “hemp” in the definition of agricultural seed, and provided standards for germination testing.

The Association of Official Seed Analyst (AOSA) had established standards for the testing of hemp seeds for germination and purity. The Association of Official Seed Certifying Agencies (AOSCA) also had established seed testing standards for certification.

Kress noted hemp was not listed as an agricultural seed in California Code of Regulations (CCR), Title 3, Section 3899, and was not required to be labeled in accordance with the labeling requirement for agricultural seeds in the California Seed Law. He noted that the Seed Advisory Board (SAB) had discussed adding industrial hemp to the list in 3 CCR § 3899, but that such discussions had occurred prior to the passage of Proposition 64, and that the SAB had not revisited the question since that time.

Kress also reported that the CDFA Seed Services Program had sent an informal survey to every other state seed control official asking if they required seed labeling for industrial hemp seed and if they collected official samples and performed testing for seed labeling requirements. Of the 34 states that replied, only six states had laboratories that were performing germination and purity testing on industrial hemp seed. Colorado was the only state that reported that it was enforcing label requirements for germination and purity on industrial hemp seed, and the five other states were only performing the tests on research or service samples and were not performing any tests on regulatory samples.

Kress briefly reviewed CDFA’s regulatory sampling activities related to seed law enforcement. Kress noted that labeling requirements would also apply to industrial hemp seeds if it were to be defined as an agricultural crop.

Prior to opening the floor to general public comments, the Board briefly discussed established agricultural research institutions, and communication with and between county agricultural commissioners.

10. Public Comments

Lane Labay [sp?] expressed concerns that large amounts of CBD hemp production may result in backlash against industrial hemp from groups that oppose medical and adult-use cannabis.

Richman thanked the Board for their time and effort, and again asked the Board to meet more frequently. Richman reported that the California Hemp Foundation had a signed memorandum of

understanding with an establish agricultural research institution, and offered to work with interested growers.

Bianchini advised growers to proceed with caution, and commented on an enforcement situation and lawsuit involving his planting.

Boucher suggested consulting SC Labs for participation on the Sampling and Testing Task Force. Boucher repeated his recommendation for establishing a timeline for actions by the Board and CDFA.

11. Next Meeting/Agenda Items

Carlson recommended holding the Task Force meeting in February 2018, and the Board tentatively schedule the next Board Meeting on March 15, 2018. Kress stated that Program staff would confirm this date with the Board, and would work with the Chair and Board to adjust as necessary.

Pires raised concerns regarding facilitating planting in Spring 2018, and noted questions he had received from the public. Kress noted that the Department continued to take actions on the Board's motions regardless of if a board meeting was scheduled.

Bianchini noted that this meeting had been scheduled at the same day and time as the Cannabis Advisory Committee, and asked that the Board take meeting dates of that committee into consideration when scheduling future Board Meetings.

12. Adjournment

Meeting adjourned by Carlson at 1:49 PM

Respectfully submitted by:

Cathy Vue
Associate Governmental Program Analyst
CDFA Nursery, Seed and Cotton Program



CALIFORNIA DEPARTMENT OF
FOOD & AGRICULTURE

Karen Ross, Secretary

January 5, 2018

To: Any Interested Parties

Subject: Cultivation of Industrial Hemp by Established Agricultural Research Institutions in California

The following is an update on the status of industrial hemp cultivation performed by established agricultural research institutions in California.

Federal law per U.S. Code, Title 7, Section 5940, also known as Section 7606 of the Agricultural Act of 2014 ("2014 Farm Bill"), establishes that:

...An institution of higher education (as defined in section 101 of the Higher Education Act of 1965 (20 U.S.C. 1001))... may grow or cultivate industrial hemp if: (1) the industrial hemp is grown or cultivated for purposes of... 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... is located and such research occurs.

The California Industrial Hemp Farming Act (Senate Bill 566, Chapter 398, Statutes of 2013) authorizes the commercial production of industrial hemp and provides for the registration of growers in California. The law became effective on January 1, 2017, due to a provision in the Adult Use of Marijuana Act (Proposition 64, November 2016). The law's provisions are contained in Division 24 of the California Food and Agricultural Code (FAC). Division 24 requires registration for commercial growers and seed breeders. An "established agricultural research institution," including an institution of higher education as defined in federal law, is exempt from registration as a grower or seed breeder and may currently grow industrial hemp in accordance with this division.

Hemp is a Schedule 1 drug under the Federal Controlled Substance Act. Activities related to the production, sale, and movement of industrial hemp and hemp products may be subject to federal and/or local restrictions. Under federal law, the range of research institutions that are allowed to grow or cultivate industrial hemp is narrower than under Division 24. For information on federal restrictions and requirements for industrial hemp and hemp products, contact the U.S. Drug Enforcement Administration's Diversion Control Division. For information on local rules and restrictions, contact your local county and/or city officials.

Should you have any questions, please feel free to contact the California Industrial Hemp Program at (916) 654-0435 or industrialhemp@cdfa.ca.gov, or visit us online at <https://www.cdfa.ca.gov/plant/industrialhemp/>. Please note, CDFA does not provide legal advice to research institutions regarding industrial hemp.

Enclosure



Selected Definitions

“Industrial hemp” is defined in Health and Safety Code (HSC) Section 11018.5 as:

A fiber or oilseed crop, or both, that is limited to types of the plant *Cannabis sativa* L. having no more than three-tenths of 1 percent tetrahydrocannabinol (THC) contained in the dried flowering tops, whether growing or not; the seeds of the plant; the resin extracted from any part of the plant; and every compound, manufacture, salt, derivative, mixture, or preparation of the plant, its seeds or resin produced therefrom.

“Established agricultural research institution” is defined in FAC Section 81000(c) as:

- (1) A public or private institution or organization that maintains land or facilities for agricultural research, including colleges, universities, agricultural research centers, and conservation research centers; or
- (2) An institution of higher education (as defined in Section 1001 of the Higher Education Act of 1965 (20 U.S.C. 1001)) that grows, cultivates or manufactures industrial hemp for purposes of research conducted under an agricultural pilot program or other agricultural or academic research.

Independent Farming Renaissance



Doug Fine
 --Solar Powered Goat Rancher
 --Hemp Farmer
 --Author, *Hemp Bound*

23,343 U.S. Hemp Acres in 2017:

The U.S. Hemp Industry is Growing 24% annually
 Number of U.S. Hemp Farmers in 2017: 1,424
 Number of U.S. Hemp Farmers in 2016: 817
 Number of U.S. Hemp Farmers in 2012: 0

Hotter than expected markets in 2016 and 2017
 --Fiber and Protein Meal (we're negotiating high end livestock feed research partnerships)

Question: Where are Nutraceuticals Headed?



--On pace to become fastest industry to a billion dollars annual revenue
 --More acres in single fields in Kentucky And Colorado last year than entire U.S. in 2015

What Is Regenerative Hemp?

A Soil Building Field Turns Into A Healthy Product

A Farm to Table Product Was A Conscious Choice



"Be First, Better or Different." --Dolly Parton

We went with a high-end craft model (AKA Ben and Jerry's style) because it's better for humanity and because on 23 acres we felt we were aiming for a different market than CBD mills

60 ACRES IN COLVILLE

A significant head start for Tribes that get in now



Succeeding in a Difficult Regulatory Environment

The Innocence of Spring

2014 Farm Bill Marked Formal End to Cannabis Prohibition

First, a genuine back pat moment: Hemp Is Back In U.S. Soil. Imagine saying that ten years ago



--First cultivated in Vermont Because NM's Governor Kept Vetoing Bi-partisan Hemp Bills
 --Seed Quickly Became a Non-issue: or Should Have

Bridging the gap between badly wanting something to happen and actually making it happen

THINK VERTICAL to Keep Revenue Regional



The more of the process in which you have a hand, and the more that stays in the community, the better off everyone is. It's a new game.

Now I know why farmers since the end of Feudalism have been inclined to leap at any ol' prices and tend to get screwed

Friendly Reminder: BUDGET FOR TESTING

Why I'm In It:
**Climate Change Is Not Hypothetical
 In Anyone's Life Anymore**

Living the Cycle
 130,000-acre wildfire in my
 backyard Nearly made me a refugee

Farewell,
 My
 Subaru

We are all
 players on a
 team down
 to its final
 out in the
 bottom of
 the 9th

DOUG FINE

A Hemp Battery To Power Your Tesla

- Growing Domestic Energy
- We all have our rock stars

Graphene, Supercapacitors, Non-Toxic Nanotechnology

Today, battery maintenance is the black hole in the Funky Butte Ranch's Solar Set up

**It All Comes Back to Home:
 The Funky Butte Ranch**

Farewell,
 My
 Subaru

DOUG FINE

To Live in A Place That Allows Javelina and Laptops is A Kind of Magic

Doug Fine's **Hemp Bound**
 Available 4/20/14

www.dougfine.com/books/hemp-bound

Event Bookings: Dougfine.com/events
 Twitter: [organiccowboy](https://twitter.com/organiccowboy)

DougFine.com
 Instagram/Twitter: @ORGANICCOWBOY

Tree-Free Literature

Difficult to describe the
 bliss of holding
 tree-free paper that goes
 your own work

Thank you Colorado
 Hemp Company

Off To Next Mission

I'm here to help:
fine@well.com

We're Almost At the Finish Line,
 And We're All In This Together



California Industrial Hemp Seed Certification Procedures
 Alex Mkandawire

Topics:

- Introduction;
- Hemp Uses;
- Hemp Varieties;
- Hemp Standards;
- Conclusion.



California Crop Improvement Association (CCIA)



California Crop Improvement Association (CCIA) is recognized by the California Seed Law as the official seed certifying agency for agronomic and vegetable seed in the State of California.

California Crop Improvement Association (CCIA)

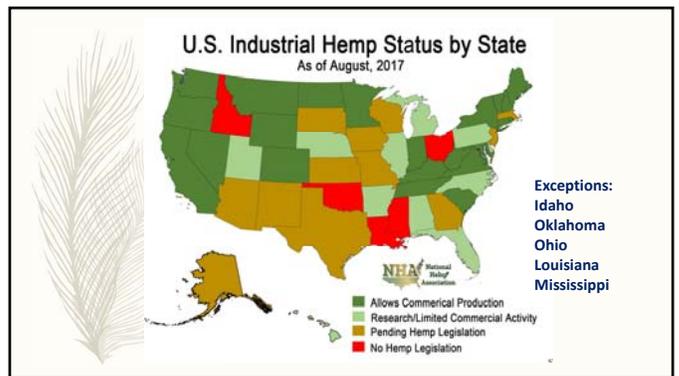


The CCIA's objective is to ensure that California certified seed is of high quality. Quality characteristics of seed that are required for customer satisfaction include trueness to variety, varietal purity, freedom from noxious and problematic weeds, low inert matter, high germination and low/zero tolerance for problematic seed-borne diseases.

Agricultural Act 2014



Agricultural Act (Farm Bill) 2014: 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 tetrahydrocannabinol concentration of not more than 0.3 percent on a dry weight basis.



Hemp for Fiber



Textiles and Shoes



Hemp for Grain



Whole Foods



Hemp for CBD Production



	Psychoactive	Non-psychoactive	
Medicinal Cannabis Tetrahydrocannabinol	THC <chem>CC(=O)OC1=CC=C2C3=CC=CC=C3O[C@H]12</chem>	CBD <chem>CC1=CC=C2C3=CC=CC=C3O[C@H]1C(=O)O2</chem>	Industrial Hemp Cannabidiol
	<ul style="list-style-type: none"> PROTECTS AGAINST CANCER REDUCES NAUSEA REDUCES PAIN CAUSES DRIZZINESS INCREASES APPETITE ANTIDEPRESSANT RELIEVES SPASMS DECREASES SEIZURES REDUCES ANXIETY ANTIMICROBIAL ANTIBACTERIAL 	<ul style="list-style-type: none"> MUSCLE RELAXANT PROTECTS NERVOUS SYSTEM ANTI-DIABETIC IMPROVES BLOOD CIRCULATION RELIEVES PSORIASIS RELIEVES CROHN'S DISEASE ANTI-INFLAMMATORY BONE STIMULANT RELIEVES RHEUMATOID ARTHRITIS ANTIOXIDANT ANTI-PSYCHOTIC 	

CCIA Elected Board of Director Districts



District I – Bill Suits
District II – Mary Wadsworth
District III – Frank Saviez
District IV – Tom Hearne
District V – Bob Baglietto
District VI – Jack De Wit
District VII – Charles Schonauer
District VIII – Glenn Hawes

**Approve varieties with 0.3% THC and IH Standards
Recommend to CDFA's IHAB**

Statement of Principles



The U.S. Department of Agriculture (USDA) in consultation with the U.S. Drug Enforcement Administration (DEA) and the U.S. Food and Drug Administration (FDA) published a notice in the Federal Register (August 12, 2016; 81 FR 53395). This notice, also referred to as 'Statement of Principles', informs individuals, institutions, and states how to legally participate in industrial hemp research, in states where such activity is legal. It informs the public how the federal law applies to activities associated with industrial hemp that is grown and cultivated in accordance with Section 7606. The Statement of Principles is a non-binding document that *allows private citizens to participate in the pilot programs*, USDA and university programs and *allows limited movement across state lines between pilot programs*.

California Field Standards



LAND REQUIREMENTS

A. Crops should not be planted on land where volunteer growth from a previous crop may cause contamination.

B. Fields for Foundation and Registered classes of industrial hemp seed must not be planted on land which in the previous 5 years grew a crop of industrial hemp.

C. Crops for Certified seed must not be grown on land which in the preceding 3 years produced a crop of industrial hemp.

D. Weeds

1. Fields may be refused certification due to excessive weeds.
2. The presence of Broomrape (*Orobanche* spp.) in an industrial hemp field may be cause for declining certified status.

California Field Standards



FIELD STANDARDS

A. Isolation

1. Isolation areas must be kept free of Industrial Hemp plants. Under optimum conditions, not more than 3 plants per 11 square feet of harmful contaminants (species that can cross pollinate with the inspected crop) are permitted within the required isolation distance(s) adjacent to the inspected crop. The conditions of each crop are assessed by the seed certifying agency which may alter this standard, usually by reducing the number of contaminant plants permitted per square yard, according to the contamination risks involved.
2. The required isolation as outlined in Table 1 must be in place prior to the time of flowering and crop inspection.
3. If Dioecious male plants start flowering before removal from field, all plants around them should be destroyed for a radius of 10 feet for Foundation and 6 feet for Registered seed crops.

California Field Standards



FIELD STANDARDS

B. Crop Inspection

1. It is the grower's responsibility to ensure that fields are inspected by an authorized inspector at least twice prior to swathing or harvesting, except in the case of Foundation and Registered monoecious type and unisexual female hybrids, in which 3 inspections are required.
2. A field that is cut, swathed or harvested prior to crop inspection is not eligible for certification.
3. Fields must be inspected at a stage of growth when varietal purity is best determined. Crops not inspected at the proper stage for best determination of varietal purity may be cause for declining certified status.

California Field Standards



Inspected Crop	Other Crops	Isolation Distance Required (feet)
Dioecious type – Registered and Foundation	Different varieties of Industrial Hemp	16,150
	Non-certified crop of same kind	6460
	Lower certified class seed crop of same variety	3
Dioecious type – Certified	Different varieties of Industrial Hemp	3230
	Non-certified crop of same kind	646
	Lower certified class seed crop of same variety	3
Monoecious type and Hybrids – Registered and Foundation	Dioecious variety of Industrial Hemp	16,150
	Non-certified crop of same kind	6460
	Different varieties of the same type of Industrial Hemp (Monoecious or Female Hybrid)	3230
	Lower certified class seed crop of same variety	3
Monoecious type and Hybrids – Certified	Dioecious variety of Industrial Hemp	3230
	Non-certified crop of same kind	646
	Different varieties of the same type of Industrial Hemp (Monoecious or Female Hybrid)	646
	Lower certified class seed crop of same variety	3

California Seed Standards

Seed Standard	Foundation	Registered	Certified
Pure seed (min)	98.00%	98.00%	98.00%
Inert matter (max)	2.00%	2.00%	2.00%
Weed seeds (max)	0.10%	0.10%	0.10%
Total other crop seeds (max)	0.01%	0.03%	0.08%
Other varieties (max)	0.005%	0.01%	0.05%
Other kinds (max)	0.01%	0.03%	0.07%
Germination (min)	80.00%	80.00%	80.00%



THC Testing

Controlled Substance Act Of 1970

Under the CSA *Cannabis* is a Schedule I controlled substance under DEA Regulation. As a result the plant or any of its parts have to be tested to show the chemical content of the psychoactive ingredient THC to verify that it is a hemp plant. Testing for THC would end if and when the 'Industrial Hemp Farming Act' becomes Law of the land.

- Mandatory?
- Part sampled?
- When sampled?
- Type of chromatography?
- Threshold; Re-testing?



Conclusion

- Industrial Hemp is a potentially profitable crop for our growers in California;
- All seed growers will be required to register with CDFA and County Ag Commissioners;
- CCIA Board will consider the Variety List and Standards for approval in February 2018;
- THC testing will be required to meet the Controlled Substance Act (Schedule I) requirements.



Topics:

- Introduction;
- Hemp Uses;
- Hemp Varieties;
- Hemp Standards;
- Conclusion.



CDFA TEMPLATE

OFFICIAL USE ONLY

INDUSTRIAL HEMP GROWER REGISTRATION FORM per FAC 81003(a) (DRAFT – 1/18/2018)

Part 1

A. GROWER INFORMATION

Applicant Name:		Registration #:
Business Name (if different):		Phone Number:
Mailing Address:		
City, State:	Zip:	Email:

B: GROWING SITE INFORMATION

List each site separately

Site : Cultivation Storage Both

Field Name or ID (Optional):	Size (acres or sq. ft.):
Physical Address:	
City:	Zip:
Global Position System (GPS) coordinates (Coordinates should be from the approximate center of the growing area)	
Longitude:	Latitude:
<u>Legal Description of Site:</u>	

REQUIRED: Attach a map showing boundaries of this growing area.

* ALL GROWING SITES MUST BE LISTED * Attach additional sheet(s) as needed.

C: GROWER APPROVED SEED VARIETY

Variety	Certification Agency	Purpose
		<input type="checkbox"/> Grain <input type="checkbox"/> Fiber <input type="checkbox"/> Both
		<input type="checkbox"/> Grain <input type="checkbox"/> Fiber <input type="checkbox"/> Both

Part 2

FEE AND PAYMENT INFORMATION

BI – ANNUAL FEE

FEES SUBMITTED

Industrial Hemp Grower Registration Fee

\$1000

\$ _____

TOTAL

\$ _____

SEND CHECK OR MONEY ORDER PAYABLE TO:

Sacramento County
County Address
County City, State, Zip

Authorized Representative (Print)

Signature

Date

CDFA TEMPLATE

OFFICIAL USE ONLY

INDUSTRIAL HEMP SEED BREEDER REGISTRATION FORM per FAC 81004(a) (DRAFT – 1/18/2018)

Part 1

A. GROWER INFORMATION

Applicant Name:		Registration #:
Business Name (if different):		Phone Number:
Mailing Address:		
City, State:	Zip:	Email:

B: GROWING SITE INFORMATION

List each site separately

Site : Cultivation Storage Both

Field Name or ID (Optional):	Size (acres or sq. ft.):
Physical Address:	
City:	Zip:
Global Position System (GPS) coordinates (Coordinates should be from the approximate center of the growing area) Longitude: Latitude:	
Legal Description of Site:	
REQUIRED: Attach a map showing boundaries of this growing area.	

* ALL GROWING SITES MUST BE LISTED * Attach additional sheet(s) as needed.

C: GROWER APPROVED SEED VARIETY

Variety	Certification Agency	Purpose
		<input type="checkbox"/> Grain <input type="checkbox"/> Fiber <input type="checkbox"/> Dual Purpose <input type="checkbox"/> Seed Production
		<input type="checkbox"/> Grain <input type="checkbox"/> Fiber <input type="checkbox"/> Dual Purpose <input type="checkbox"/> Seed Production

D. IF Developing a new California seed cultivar to be certified by a certifying agency.

Seed Certifying Agency:
Varieties use to develop new seed cultivar:
Attach Seed Development Plan:

Part 2

FEE AND PAYMENT INFORMATION

BI – ANNUAL FEE

FEES SUBMITTED

Industrial Hemp Seed Breeder Registration Fee

\$1000

\$ _____

TOTAL

\$ _____

SEND CHECK OR MONEY ORDER PAYABLE TO: Sacramento County
County Address
County City, State, Zip

Authorized Representative (Print)

Signature

Date

January 18, 2018

Industrial Hemp and the California Seed Law

Federal Seed Act regulations list “Hemp—*Cannabis sativa* L. subsp. *sativa*” in the definition of “agricultural seed” in 7 CFR § 201.2(h) and 201.56-12 “Germination Tests in the Administration of the Act”. Association of Official Seed Analysts (AOSA) has rules/standards for the testing of hemp seeds. The Association of Official Seed Certifying Agencies (AOSCA) has set seed certification standards for industrial hemp.

Currently hemp is NOT listed as an “agricultural seed” in California (CCR 3899). The CA Seed Advisory Board has discussed adding hemp to the “ag seed” list, but has not yet moved to do so.

CDFA staff has polled all 50 state seed control officials to determine if their seed labs test hemp seed. 16 states did not reply. Of the 34 states that replied only 6 labs are doing any testing of hemp seed. Only Colorado is enforcing label requirements (purity/germination) on hemp seed. The 5 other states that test hemp seed are only working on research or service samples.