Industrial Hemp Program: 2014 in Review and a Look Ahead
The Last Two Years........

Nov 2012 Voters approve Amendment 64 legalizing recreational marijuana and Industrial Hemp

Legislature approves Industrial Hemp Act Giving CDA jurisdiction over the registration and cultivation of Industrial Hemp

Summer 2013 U.S. Department of Justice issues Cole Memorandum

2014 Farm Bill authorizes Industrial Hemp R&D at Institutions of Higher Education.

Spring 2014 first registrations for the legal production of Industrial Hemp approved

2014 Production, harvest and sale of Industrial Hemp begins within CO
Why is the Cole Memorandum Important?

Addressing the concerns the Dept. of Justice expressed in the Cole Memorandum is important for the Industrial Hemp program as it demonstrates to the Dept. of Justice that Colorado is handling Industrial Hemp responsibly though implementation of adequate rules to insure compliance.

It is the Cole memorandum that gives Colorado the direction and assurances that with compliance the Drug Enforcement Administration will respect Industrial Hemp registrants right to cultivate Industrial Hemp as approved by the voters of Colorado.
U.S. DOJ Cole Memorandum Summary

- Prevent drugged driving
- Preventing the distribution of Cannabis to minors
- Prevent violence and firearms use in the cultivation and distribution of Cannabis
- Prevent growing or possession of Cannabis on public lands
- Preventing the revenue from Cannabis to go to criminal elements
- Preventing the diversion of Cannabis to other states
- Preventing state authorized Cannabis activities to be used as a cover or pretext for illegal activities
What is Industrial Hemp?

Colorado Industrial Hemp Act

The term ‘industrial hemp’ means a plant of the genus *cannabis* and any part of the plant, whether growing or not, with a delta-9 tetrahydrocannabinol concentration of no more than 0.3 percent on a dry weight basis.

Over 0.3% and it is marijuana and not industrial hemp.
Agriculture Act of 2014 (The Farm Bill)

Sec. 7606 (a) Notwithstanding the Controlled Substances Act, the Safe and Drug-Free Schools and Communities Act, chapter 81 of title 41, United States Code, or any other Federal Law, an institution of higher education or 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 institutions of higher education or State department of agriculture is located and such research occurs.
Farm Bill Definitions

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 laws of the State AND (B) in a manner that (i) ensures that only institutions of higher education or State departments of agriculture are used to grow or cultivate industrial hemp (ii) requires that site 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 department of agriculture to promulgate regulations to carry out the pilot program in the States in accordance with the purposes of this section.
Industrial Hemp vs Marijuana

**Industrial Hemp**
- THC content less than 0.3%
- Anything with a THC concentration of 0.3% - 0.9% is considered to have “only a small drug potential” but is legally *not industrial hemp*.

**Marijuana**
- THC content between 5 - 10%
- THC may be as high as 25%
- THC at a level of 1% is considered the threshold for marijuana to have some intoxicating potential. Any material with a THC above 0.3% *is* legally marijuana.

Sources:

Who set 0.3% as the THC Limit?

- UN Office on Drugs and Crime and most international trade agreements use the upper generally recognized limit of 0.3% THC.

- Canada and Australia use 0.3% THC

- Much of the European Union uses 0.2% THC

- The 2014 Farm Bill uses 0.3%

- And the voters of Colorado defined Industrial Hemp as 0.3% and below in the States Constitution.
## Jurisdiction: Industrial Hemp & Marijuana

### Industrial Hemp
- CDA has jurisdiction for cultivation of *Cannabis* with 0.3% THC or less.
- Waiver from civil penalties, program suspension and registration renewal for material above 0.3% can be requested. Criminal penalties resulting from the unlicensed growth of plant material exceeding 0.3% remains the jurisdiction of the DOR.

### Marijuana
- Department of Revenue regulates the cultivation, sale and distribution of recreational *Cannabis* above 0.3% THC.
- CDPHE regulates the cultivation and distribution of medical *Cannabis*.
- Criminal penalties apply for violation of rules.
Why is it important to understand who regulates and the penalties?

There has been an ongoing misunderstanding that the CDA has the authority to grant waivers for the cultivation or use of plant material that exceeds 0.3% THC. Our waiver authority is limited to penalties imposed under the Industrial Hemp Act. Jurisdictional control of material that exceeds 0.3% THC, remains with other agencies. We have no legal authority to allow cultivation of any Cannabis above 0.3% THC.

Protection from penalties, including criminal penalties, for violating the registration and rules of the programs as establish by those other agencies is not within the jurisdiction of the CDA.
Lessons from 2014:
What did we see and what did we learn
What types of registrants did we see?

Indoor and outdoor

High tech to very low tech

Well funded to right on the edge of financial failure at launch

Well organized and well documented operations to the totally free spirited fly by the seat of their pants operations

It has been a bit of everything imaginable and each case presents unique and different challenges.
Who makes up our registrants?

We have 131 total registrants: 46 commercial, 67 R&D and 18 who hold both commercial and R&D registrations.

We have a total of 259 registrations with 1811.7 total acres registered with the program: 121 commercial registrations totaling 1552 acres and another 138 R&D registrations with 259.7 acres.

Larimer county has the most commercial registrations with 21 followed by Delta (13) and Boulder (12). Boulder has the most R&D registrations with 25 followed by Larimer (20) and Delta (14).

39 of Colorado’s 64 counties have registered hemp fields.
The Fields: What did we see?

Square feet to multiple acres in size

In-ground field plantings and containers

Well maintained and poorly maintained fields of weeds

Monoculture to multiple variety breeding programs

And a mix of it all making each situation a unique and different challenge.
Just a few examples of the diversity
Not all fields were so small or hard to find.
The Plants: What have we seen?

Most of our registrants plants are dioecious types.

Plant habit is highly variable.

Plant habit is not an indicator of THC level.
What are our registrants doing with the crop?

Registrants disposition statements have included a wide assortment of uses ranging from the traditional ‘rope and soap’ we expected to see but also include hempcrete, spun insulation, paper fiber, hemp coffee, edible oil, dietary supplements, sprouts, seed for replanting, seed sales, new variety development, DNA sequencing, CBD extraction for medicinal purposes......

Have we seen it all?

Certainly not!!!!!
2014 Inspection and Sampling

Up to 33% of registrants may be selected for sampling. We focused on outdoor testing first and will focus on testing indoor facilities as we move into 2015.

Sampling protocols have been established to allow inspectors to use best judgment while still meeting legal test.

Lab protocols have been established to determine quantitative levels of THC for compliance.
So what about the test results?

Overall 69% of the tests were below 0.3%.
Two registrants had material that tested above 1.0%.

Results to Date:

<table>
<thead>
<tr>
<th>Type</th>
<th>% Pass</th>
<th>Commercial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial</td>
<td>86%</td>
<td>R &amp; D</td>
</tr>
<tr>
<td>R &amp; D</td>
<td>50% ***</td>
<td></td>
</tr>
</tbody>
</table>

These results represent 17% of our registrants. We will begin to focus on indoor sites with an aim of sampling 33% of registrants as allowed in the coming months.

*** 82% overall and 75% of R&D
Some of the issues in 2014.

Lack of seed for planting.

Poor quality seed of unknown type offered at a premium price from unregistered seed labelers.

Musical plants and facilities. (Hemp to marijuana and marijuana to hemp. Here today, there tomorrow registration challenges.)

Almost no notice before harvest due to lack of experience at the grower level.

Poor or no communication for the registrants. (Returned mail, disconnected phones, and general failure to respond.)

Lack of data generated to aid program development. (No cultural data, no variety successes, no yield information, no acres harvested.....)
Some of the reasons for the issues.

It remains federally illegal to import hemp seed for private individuals.

There is little experience at the grower level.

Federal funding jeopardized at institutions of higher education made it difficult for them to fully participate.

Ambiguity and misunderstanding the rules.

A desire to compare us to Canada and Kentucky when it is convenient while forgetting the differences.
The Comparisons: What we aren’t.

Canada:

- Hemp cultivation is legal and regulated nationally for use as seed, grain and fiber production only.
- Planting is limited to certified and tested varieties proven to produce plants below 0.3% THC in specific regions.
- Marijuana possession remains criminally illegal.
The Comparisons: What we aren’t. Kentucky:

- Hemp cultivation is authorized as part of a 5 year research project.

- All applications are reviewed by State Police and background checks for applicant and all workers, paid for by applicant, are done before KSP grants a license. (10 year exclusion provision)

- Planting is limited to seed provided by KDA to institutions of higher education and selected farmers authorized through MOU’s to do research and develop varieties. (Approximately 20 acres)

- Marijuana possession remains criminally illegal.
So, what’s next?

Work toward a seed certification program to improve seed quality so farmers get what they pay for and expect.

Help facilitate research with CU & CSU through COHeReNT.

Develop tools to gather information vital to the development of the Industrial Hemp program.

Clarify some of our issues during the registration process and enforce reporting compliance.

Look at rule and legislative changes necessary to more effectively address the situations we’ve encountered this year.
What are some of the rule changes?

Clarify definitions of Commercial and R&D

“Commercial” means the growth of industrial hemp by any person or legal entity other than an institution of higher education or under a pilot program administered by the Department for purposes of agricultural or academic research in the development of growing industrial hemp engaged in commerce and having profit as a chief aim.

“Research and Development” means growth of industrial hemp either by an institution of higher education or under a pilot program administered by the Department for purposes of agricultural or academic research in the development of growing industrial hemp for increase of seed stock from parent material intended for varietal development, phytoremediation, basic agronomic practices, and other activities for the purpose of discovering and enabling development of useful processes, information, and products.
The revised definitions for "Commercial" and "Research and Development" are intended to establish a clear separation between the activities allowed under different registration types.

All activities not authorized by the 2014 Farm Bill’s R&D language, including all privately-conducted R&D, are covered by a commercial registration.

Language allows research for competitive advantage or product development without limiting the sale or distribution of plant material used and produced under a commercial registration, similar to what commercial enterprises in other industries do for product development in a research division of a company. This Rule change meets the needs of registrants who have requested sale of material from R&D registrations by aligning their research to be conducted under commercial registration without structurally changing their research practices.
What’s R&D and what’s commercial?

Understanding R&D in a commercial setting?
Ford’s Mustang R&D, Commercial Focus
Clarify Registration vs Registrant.

“Registrant” means any individual or legal entity who holds a valid registration to grow industrial hemp under these Rules.

“Registration’ means authorization by the Commissioner for any individual or legal entity to grow industrial hemp on a designated land area.

These definitions are intended to define the difference between a person or entity who has been granted approval to grow Industrial Hemp from a specific site authorization to grow Industrial Hemp.
Clarify costs and terms?

The registrant agrees to pay for any sampling INSPECTION and LABORATORY analysis costs that the Department deems necessary within 30 days of the date of the invoice.

Amending the language in Rules 2.1.7.3 and 2.2.7.3 is intended to standardize the terminology with that used in Part 4, clarify the costs for which a registrant is responsible, and set the terms of payment which are not currently specified. This clarification is necessary because some registrants have delayed payment of fees until another registration is granted or until they have negotiate individual payment terms, creating administrative confusion and increasing program costs.
Registration transfers

Registrations cannot be assigned or transferred to another business, individual or other entity.

The prohibition on the transfer of registration is necessary to prevent the transfer of registrations to persons or entities who would not otherwise qualify for a registration due to previous sanctions and penalties. This also closes a potential loophole through which a legally acquired Industrial Hemp registration could be transferred to another individual for purposes of evasion in growing or transport of Marijuana (which is one of the concerns law enforcement has expressed.)
Clarify what plants can be included in a registration.

No plant shall be included in more than one registration.

Rule 2.4 is necessary to avoid confusion when a registrant holds multiple registrations. This rule will enable the Department to accurately identify, inspect and sample all of the plants grown under a specific registration.
Define what plant material can be included in a registered land area.

No registered land area may contain cannabis plants or parts thereof that the registrant knows or has reason to know are of a variety that will produce a plant that when tested will produce more than 0.3% THC on a dry weight basis. No registrant shall use any such variety for any purpose associated with the cultivation of industrial hemp.
Under Article XVIII, Section 16 of the Colorado Constitution (Adopted by voters as “Amendment 64”) “Industrial Hemp” is defined and regulated separately from “Marijuana”. The Department therefore has no legal jurisdiction over cannabis that contains more than 0.3% THC on a dry weight basis because it is constitutionally defined as Marijuana and not Industrial Hemp. The Department thus does not have the authority to grant the possession or use of any cannabis material above 0.3% THC within its Industrial Hemp registration program; all such material is regulated as Marijuana under the authority of the Dept. of Revenue. Rule 2.5 is necessary to prevent the use or presence of plant material in a registered land area that would be outside the Department of Agriculture’s jurisdiction. The proposed Rule language does not limit the right to possess or do Marijuana research but does prevent Marijuana material from knowingly being used under the Industrial Hemp program by excluding it from the area the registrant has agreed is dedicated to Industrial Hemp.
**Develop set backs from marijuana**

In order to minimize the possibility of cross-pollination with marijuana plants, no registrant shall grow any industrial hemp plants within one mile of any other cannabis plants that are not included in an industrial hemp registration and are growing outdoors, or within ¼ mile of any cannabis plants that are not included in an industrial hemp registration and are growing indoors, unless specifically authorized by the Commissioner.

The provisions in Rule 2.6 are needed to prevent pollen from marijuana plants from being easily crossed with industrial hemp plants grown by the same person or entity. The Rule provides for variances where a registrant can demonstrate a legitimate need, and adequate protections to prevent cross pollination are provided.
Define a registration.

Each noncontiguous land area on which industrial hemp is grown shall require a separate registration. Any addition to a registered land area shall also require a separate registration.
Rule 2.7 defines what may be included in a single registration. The change is necessary to track registration sites, what is planted on a registered land area and ensure accurate testing can be done. The current system has created administrative issues as registrants have added sites miles away from existing registrations during the growing season and cancelled growing areas registered under the same registration, creating situations where it has become difficult to track where plant material is being grown for inspection purposes. These changes in registrations have also increased the cost of program administration as the Department attempts to track sites currently registered to grow Industrial Hemp. The Rule does not limit the registrants ability to stagger planting within a registered land area. The Rule is also intended to facilitate the establishment of an equitable fee structure to self-fund the program as mandated in the Act.
Set fees to fund program.

The annual registration fee for commercial production or R&D of industrial hemp shall be $200 (C) or $100 (R&D) $500 plus $1.00 (C) $5.00/acre outdoors and / or $.33 /1000 sq.ft. indoors.

The Department is proposing to increase the fees in Rule 2.9 and 2.10 to comply with the self-funding mandate set forth in Section 35-61-106 (2), C.R.S. Current fees have generated less than 20% of the necessary revenue to support the program. Section 35-61-106 (2), limits the sources of revenue to registration fees and land area. Leaving registration fees at current levels would require per acre fees to exceed $55. The new registration fee structure was developed to equitably generate sufficient revenue to self-fund the program at current registration levels. The fees for Commercial and Research & Development were set at the same level so as not to favor either type of registration or disadvantage research for competitive advantage conducted under a commercial registration.
Clarify handling of registered material

All plant material must be planted and harvested within the registration period.

Section 35-61-104(3), C.R.S. defines the effective period of a valid registration to one year. To regulate the program it is necessary for plant material to be registered before planting as required in Rules 2.1 and 2.2. To insure that all plant material is regulated under a valid registration and therefore protected under Section 35-61-102(2), C.R.S., Rule 2.12 was created to clarify the requirement to harvest before a registration expires.
Define amendments to registrations

Amendments to an existing registration are limited to changes within the original land area registered, including variety changes, location(s) of varieties, and actual acreage or square feet of each variety planted. Any registrant that wishes to alter the growing area(s) on which the registrant will conduct industrial hemp cultivation for either commercial or research and development purposes shall, before altering the area, submit to the Department an updated legal description, global positioning system location, and map specifying the proposed alterations.
Rule 2.13 is necessary to prohibit the expansion of a registration outside of the original land area described in the application for registration. Without this limitation it is very difficult and time consuming for the Department to track plant material to a registration or ensure compliance with planting reports. Registrants have used the current amendment language establish new growing sites and assign sites originally registered to another registrant. The current system allowing registrants to add new locations through amendments without cost has significantly increased the administrative costs of the program which must be passed on to all registrants.
Incomplete Applications will not be processed and application fees will not be refunded if a registration is not granted.

Rule 2.14 ensures that cost to process an application incurred by the Department prior to and regardless of whether a registration is issued are not passed along to other registrants should a registration not be granted. Under 35-61-106(2), C.R.S., the commissioner is required to collect fees to cover all of the program’s costs, including those associated with applications that are denied.
Require current contact information

Any changes to contact information must be provided within 10 days of the change.

The Department has spent considerable resources trying to contact the registrants after registration due to changes in contact information. This has increased administrative costs for the program. Rule 2.15 requires registrant contact information remain current so the Department can contact registrants regarding sampling and inspection without added administrative costs to contact a registrant. Some registrants have changed their contact information including mailing address, e-mail address and phone numbers to evade requests by the Department to conduct inspections.
Establish a plant report

Within 10 days after planting, each registrant shall submit a report with the Commissioner that includes a list or description of all varieties planted within a registered land area and the location and actual acreage or square feet of each variety planted within a registered land area.

The requirement of a planting report is necessary for the Department to determine what fields have actually been planted so we can determine what fields may need inspection, allocate resources for inspection, collect variety information to support a seed certification program and collect agronomic data on the crop to determine economic value to the state.
Inspections

All registrants REGISTRATIONS are subject to sampling of their industrial hemp crop to verify that the THC concentration OF THE CANNABIS PLANTED WITHIN A REGISTERED LAND AREA does not exceed 0.3% THC on dry weight basis. The Commissioner MAY select up to 33% 100% of the registrants to be inspected, except that no registrant may be selected more than two years in row without cause. The Commissioner shall SEND notify NOTIFICATION TO each registrant of their selection by certified mail. The notification shall inform the registrant of the scope and process by which the inspection will be conducted and require the registrant to contact the Department within 30 10 days to set a date and time for the inspection to occur. FAILURE TO CONTACT THE DEPARTMENT AS REQUIRED WILL RESULT IN THE INITIATION OF DISCIPLINARY PROCEEDINGS PURSUANT TO PART 6 OF THESE RULES AGAINST THE REGISTRATION.
The change in Rule 4.1 allowing sampling of up to 100% of registrants is necessary to accommodate the July 1, 2014 statutory change allowing year round registration while still conducting an effective inspection program including testing in the event an unanticipated violation is reported or suspected. The amended language also eliminates the exemption from testing after two years which could prevent the Department from retesting registrants with prior violations in a timely or effective manner. This change also addresses law enforcement’s concern that registrants who have been tested for two years and thus could grow Marijuana without concern of inspection the third year.

The change in time from 30 to 10 days after notification allows the Department to determine harvest timing and arrange for inspections. The 30 days hampered the Departments ability to coordinate inspections of multiple sites increasing the inspection travel costs for the registrant as harvest in many cases was more immediate once the registrant replied.
Plants to be sampled

All cannabis plants within a registered land area may be sampled to ensure compliance with the Industrial Hemp Program. Sampling of industrial hemp plants will occur in the following manner:

Registrants have agreed at registration not to include plant material that will exceed 0.3% on a registered land area. Registrants have used the current Rule language to assert that some plants used by them for cultivation of Industrial Hemp cannot be tested by the Department because they are Marijuana that is being grown for personal use or under a Medical Marijuana card application.
Types of sampling

**INDIVIDUAL** OR composite samples of each variety of *industrial hemp* cannabis may be sampled from the *growing area(s)* REGISTERED LAND AREA at the Department’s discretion.

**THE AMENDED LANGUAGE IN RULES 4.3 AND 4.3.1 ALLOWS ALL CANNABIS MATERIAL GROWN IN A LAND AREA UNDER AN INDUSTRIAL HEMP REGISTRATION TO BE SAMPLED. IT ALLOWS THE DEPARTMENT OR REGISTRANT TO DETERMINE IF A SPECIFIC PLANT OR GROUP OF PLANTS IS TO BE SAMPLED. THIS AMENDED LANGUAGE ALLOW THE DEPARTMENT TO WORK WITH INDUSTRIAL HEMP BREEDING PROJECTS WHERE SAMPLING EVERY INDIVIDUAL PLANT WOULD BE COST PROHIBITIVE TO A REGISTRANT AND COULD EFFECTIVELY DESTROY A BREEDING PROGRAM IF ALL PLANTS WERE SELECTED FOR INSPECTION.**
Test results

A composite-sample test result greater than 0.3% THC will be considered conclusive evidence that at least one cannabis plant or part of a plant in the growing REGISTERED LAND area contains a THC concentration over the limit allowed for industrial hemp and that the registrant of that growing REGISTERED LAND area is therefore not in compliance with the Act. Upon receipt of such a test result, the Commissioner may summarily suspend and OR revoke the registration of a commercial AN industrial hemp registrant in accordance with the Act, these Rules and Section § 24-4-104 (4), C.R.S. Sample test results for industrial hemp registrations that are greater than 1.0% THC concentration may be provided to the appropriate LAW ENFORCEMENT AGENCIES.
The amended language in Rules 4.3 and 4.3.1 allows all cannabis material grown in a land area under an Industrial Hemp registration to be sampled.

It also allows the Department or registrant to determine if a specific plant or group of plants is to be sampled. This amended language allows the Department to work with Industrial Hemp breeding projects where sampling every individual plant would be cost prohibitive and could effectively destroy a breeding program if all plants were selected for inspection.
Use of Cannabis verses Industrial Hemp

There have been some discussion about the Department’s use of Cannabis at times and Industrial Hemp at times. The term Cannabis is selected where the THC level is unknown or undetermined but the Cannabis plants are included in an Industrial Hemp registration.
Questions?