

# Colorado Industrial Hemp Program



**COLORADO**  
Department of Agriculture  
Division of Plant Industry

# Colorado Department of Agriculture, Industrial Hemp Program Staff

Brian Koontz	Program Manager
Jessica Quinn	Registration and Compliance Coordinator
Margaret Foderaro	Inspection and Outreach Coordinator
Mindy Archuleta	Administrative Assistant
Jeremy Aguirre	Administrative Assistant
Michael Manzo	Administrative Assistant & Technical Support
Rob Donald	Certified Seed Trials
Laura Pottorff	Plant Health and Certification Section Chief
Wondirad Gebru	Plant Industry Assistant Division Director

Field Services      18 Inspectors

Laboratory Services

## Focus of the program

- Clearly separate hemp from its cousin, MJ
- Ensure all business is based on true hemp i.e. low THC plants to comply with regulations
- Planting good varieties with known THC & market traits
- Administer a certified seed program that identifies seeds that produce industrial hemp.
- Nurturing R&D capacity to spearhead future development
- CHAMP initiative to ensure Colorado leads the hemp industry in the country

# What is Industrial Hemp?

## Federal Farm Bill Definition

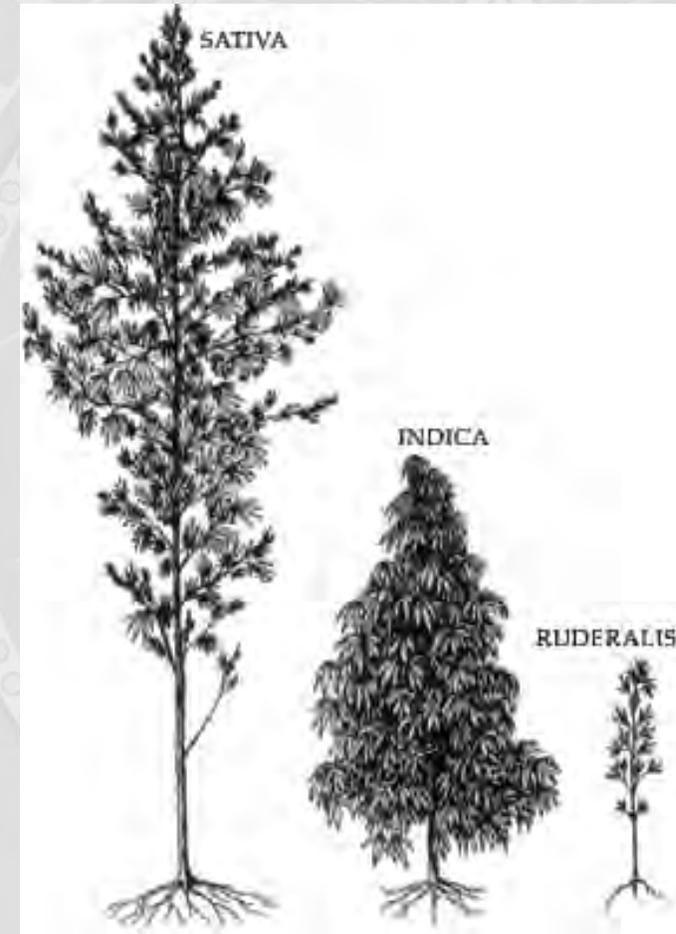
The term 'industrial hemp' means the plant **Cannabis sativa L.** and any part of such plant, including the seeds thereof and all derivatives, extracts, isomers, acids, salts, and salts of isomers, whether growing or not, with a delta-9 tetrahydrocannabinol concentration of not more than 0.3 percent on a dry weight basis.

New 2018 Farm Bill Language



# How can I tell marijuana from Industrial Hemp?

Visually they look the same because they are the **same** genus and species of plant. The only difference is the **level of delta-9 THC concentration** which can only be determined through laboratory analysis.



# How does the program work?

The program has 3 key components:

## **1) Registration** – Cultivator, crop and location info

- Coming soon in 2019- ONLINE Registration

## **2) Reports**- Pre-Planting, Planting and Harvest

## **3) Inspection and Sampling** - Risk and Random based selection

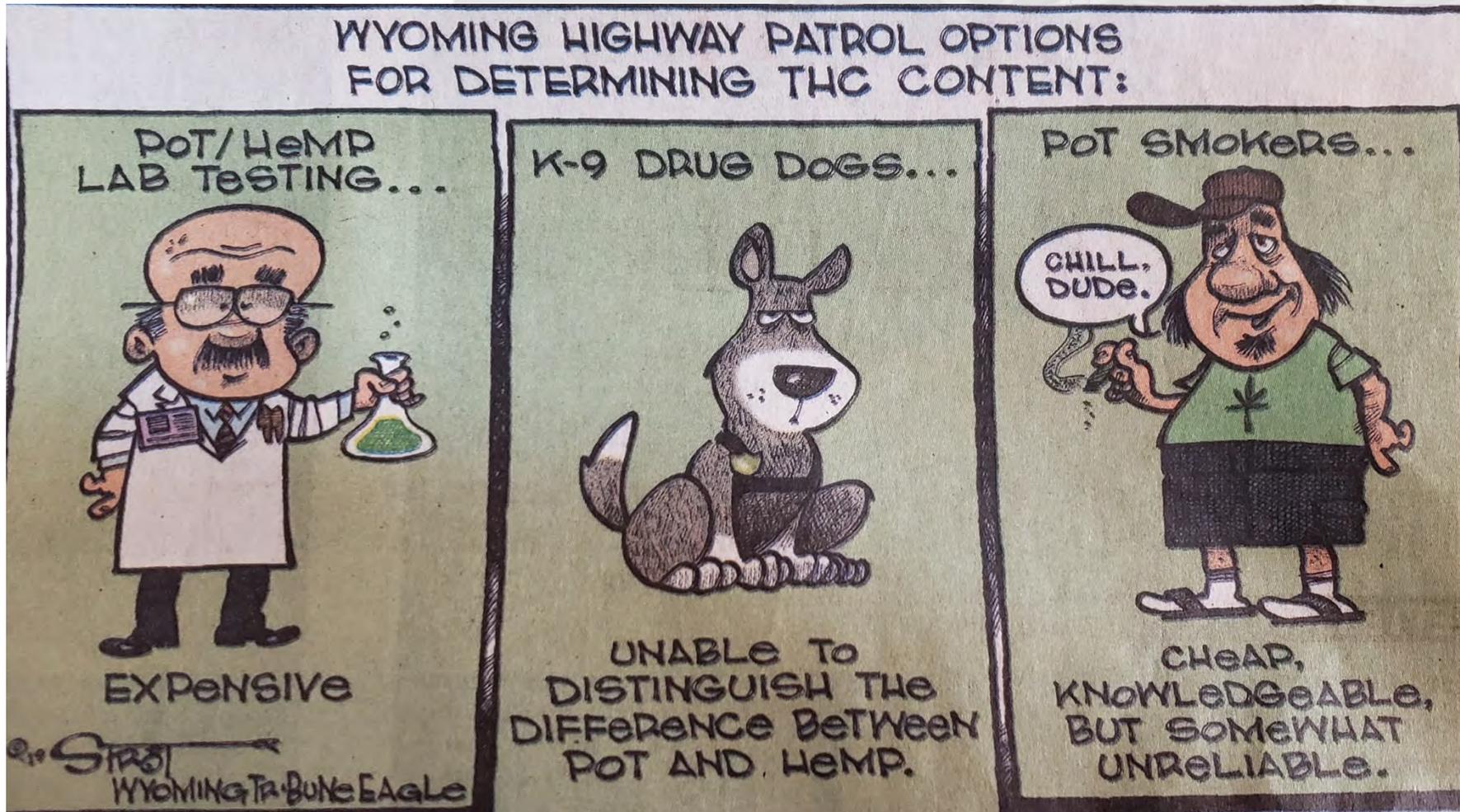
- There are only 9 pages of Rules.

# What is delta-9 tetrahydrocannabinol?

Delta-9 tetrahydrocannabinol, THC, is one of several cannabinoids that the plant produces; THC, CBD, CBN, CBV, and a whole host of others. Most cannabinoids are produced by the plant primarily in an acid form. THCA, the acid form of THC, can't get you high but is converted to THC that can through a process called **decarboxylation**.

The new Farm Bill clarifies that the THC level has to be measured **post decarboxylation**.

# Marijuana vs. Industrial Hemp?



# Indoor production for transplant



# Outdoor production for CBD



# Outdoor production for fiber/seed



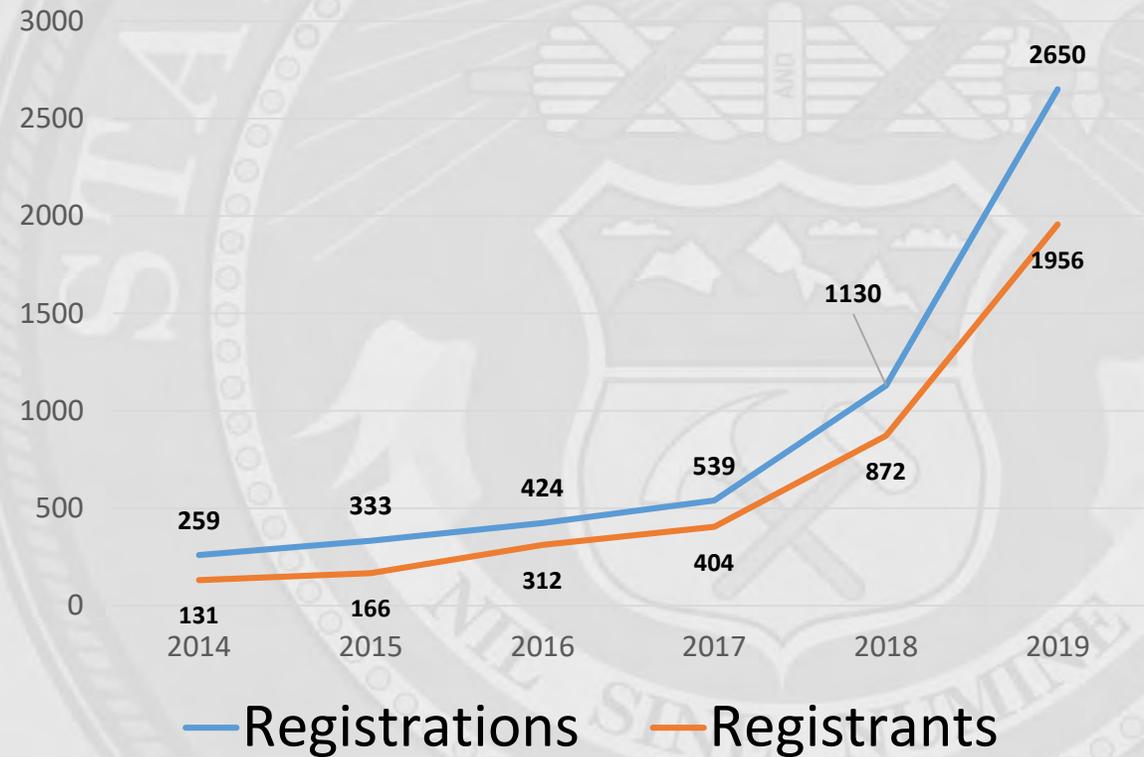
# PROGRAM GROWTH

# Year In Review

## GROWTH OF PROGRAM

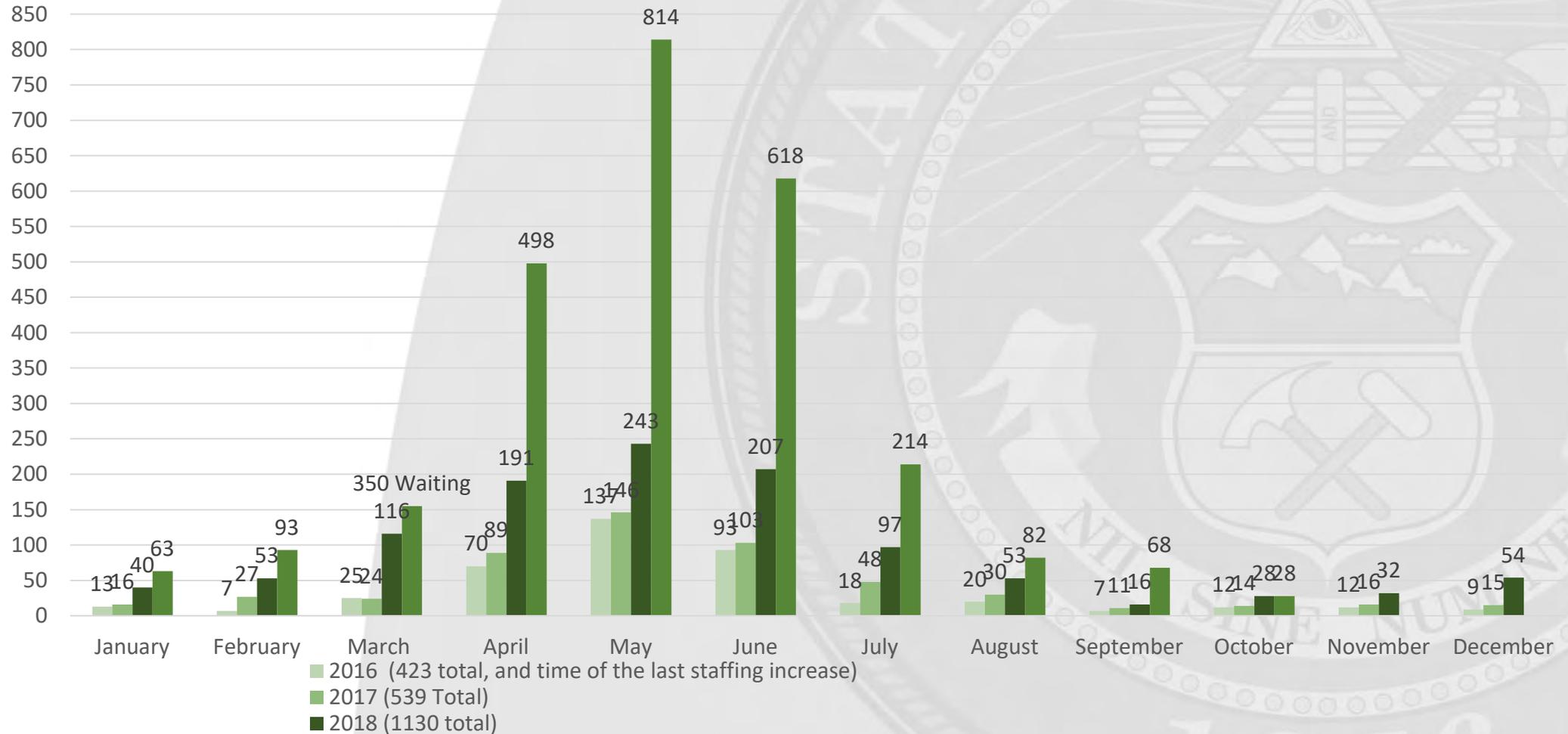
REGISTRATIONS ISSUED AND NUMBER OF REGISTRANTS  
2014-2019

CURRENT REGISTRATION NUMBERS	
Active Registrations	2635
Registrants	1950
Registered Acres	88743
Registered Square Feet	15.4 Million



# Annual Totals with Graph of Registrations Issued by Month:

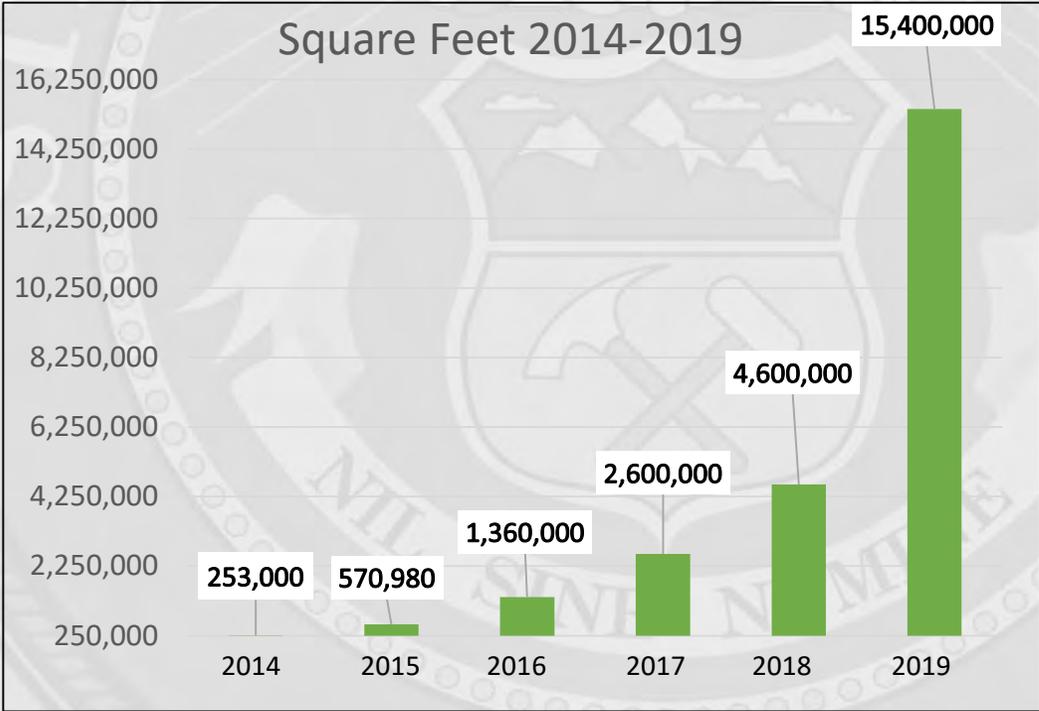
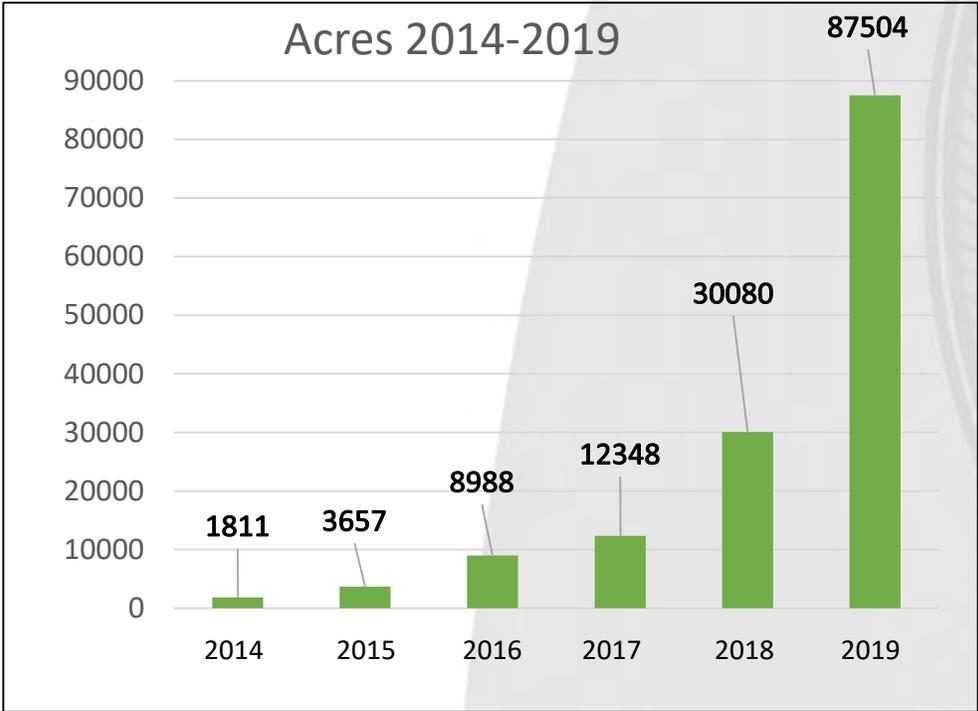
In the first few years of the program, registrations historically increased by ~30% each year (2014-2017). However, from 2017 to 2018 they increased 106%. And from 2018 to 2019, since the 2018 Farm Bill announcement they have increased 138%.



# Year In Review

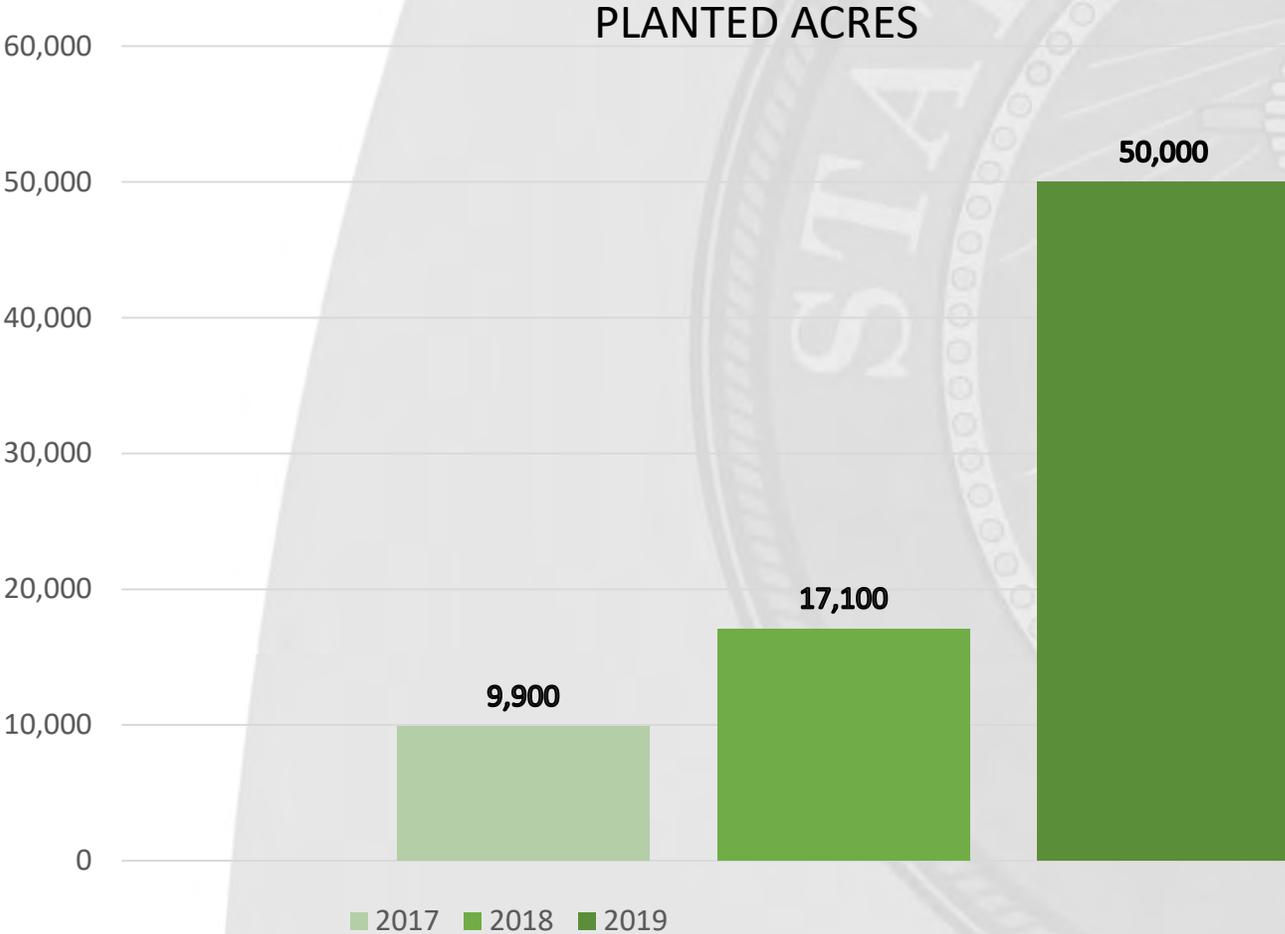
## GROWTH OF PROGRAM

### REGISTERED ACRES

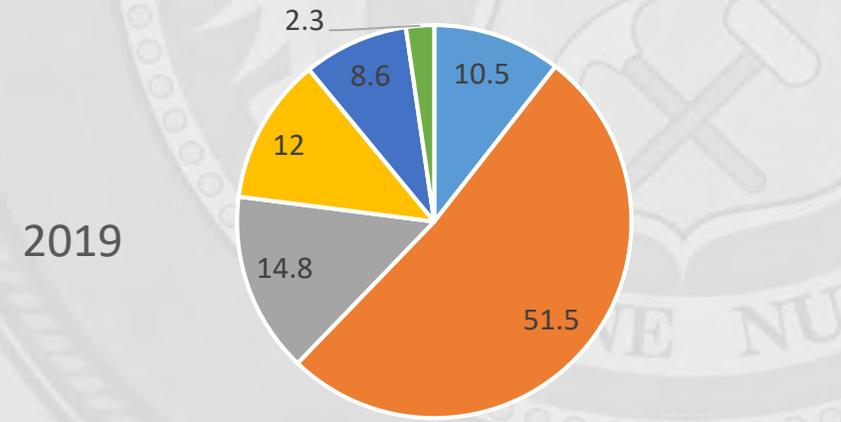
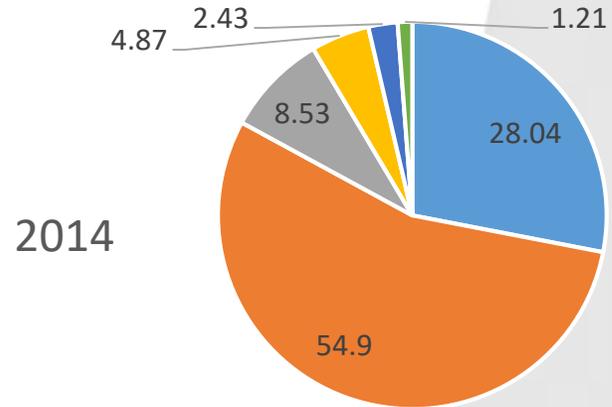
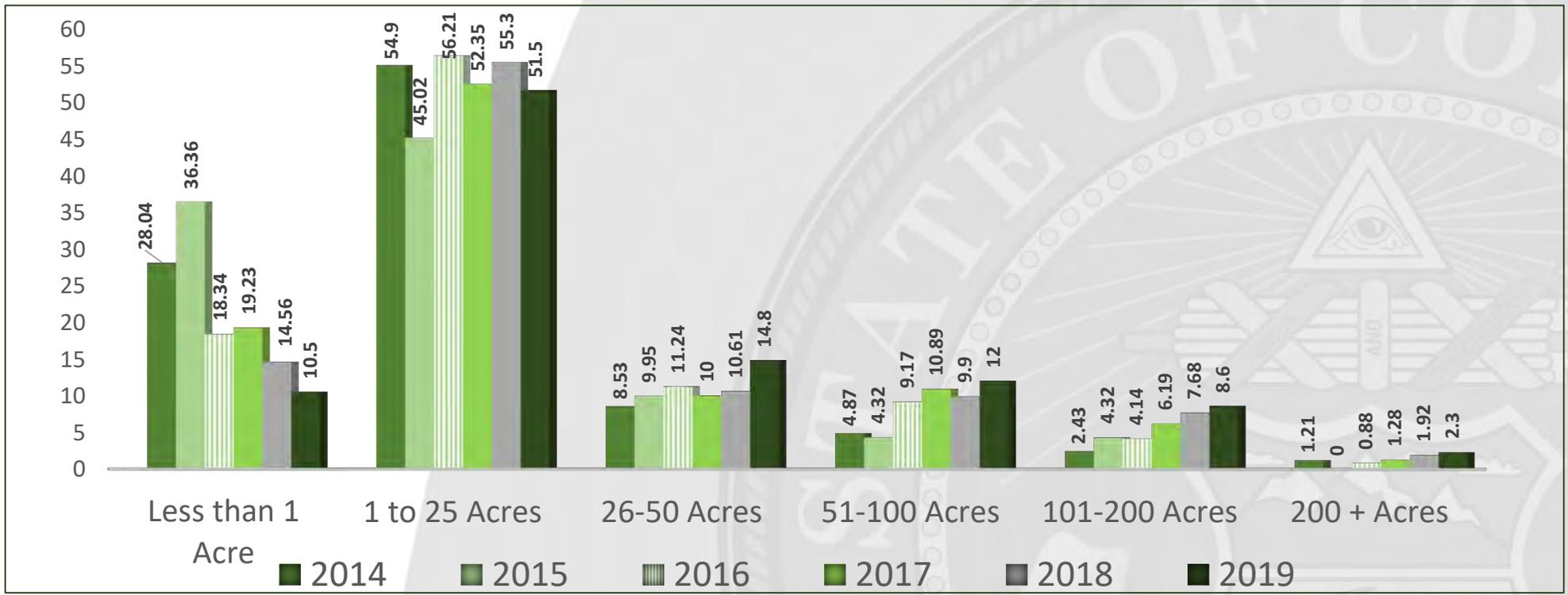


# Year In Review

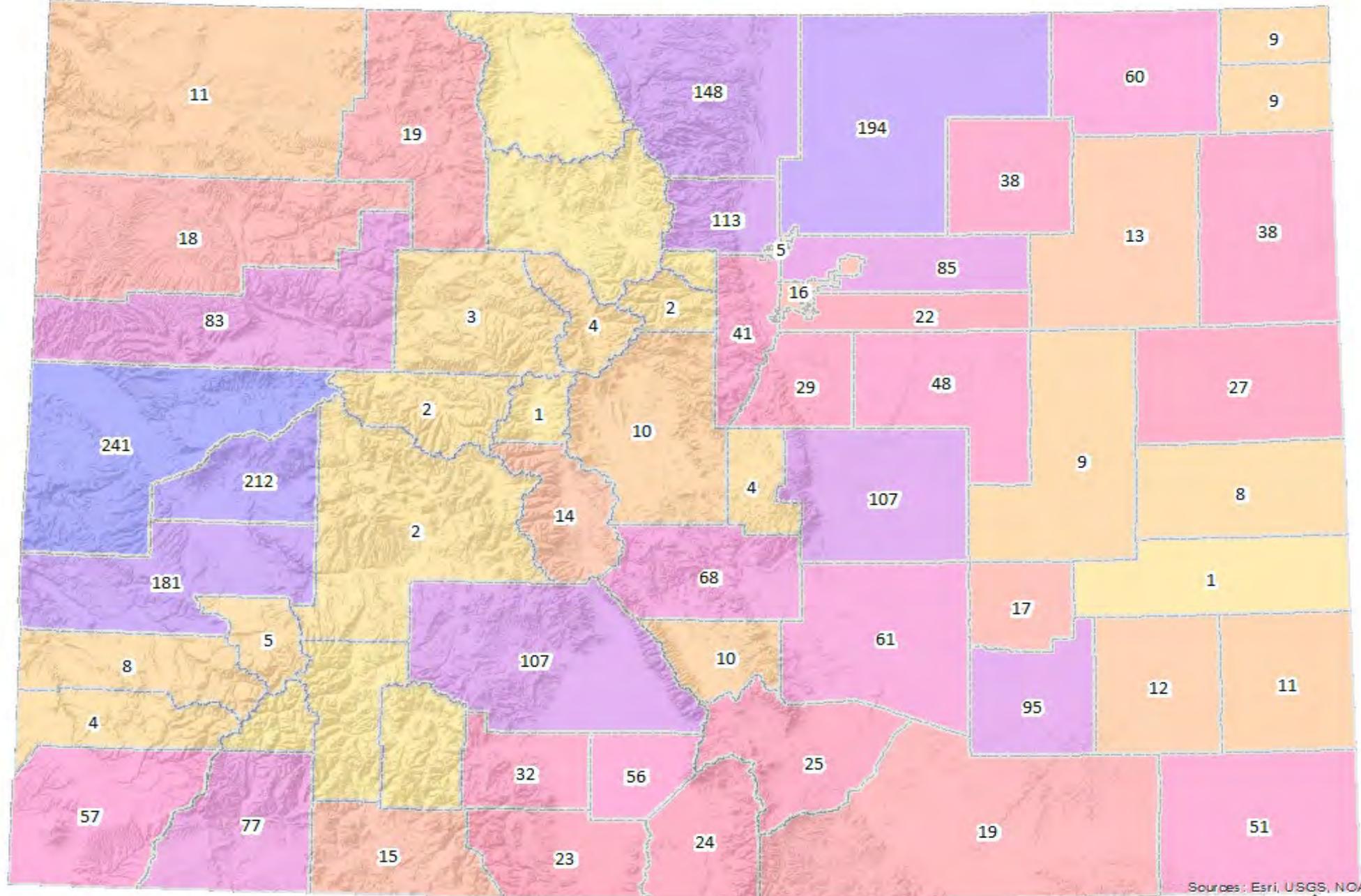
## GROWTH OF PROGRAM



\*\*Rounded to nearest hundred



- less than 1 acre
- 1 acre to 25
- 26 to 50 acres
- 51-100 acres
- 101-200 acres
- 200 or more acres

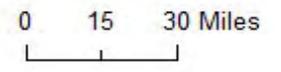


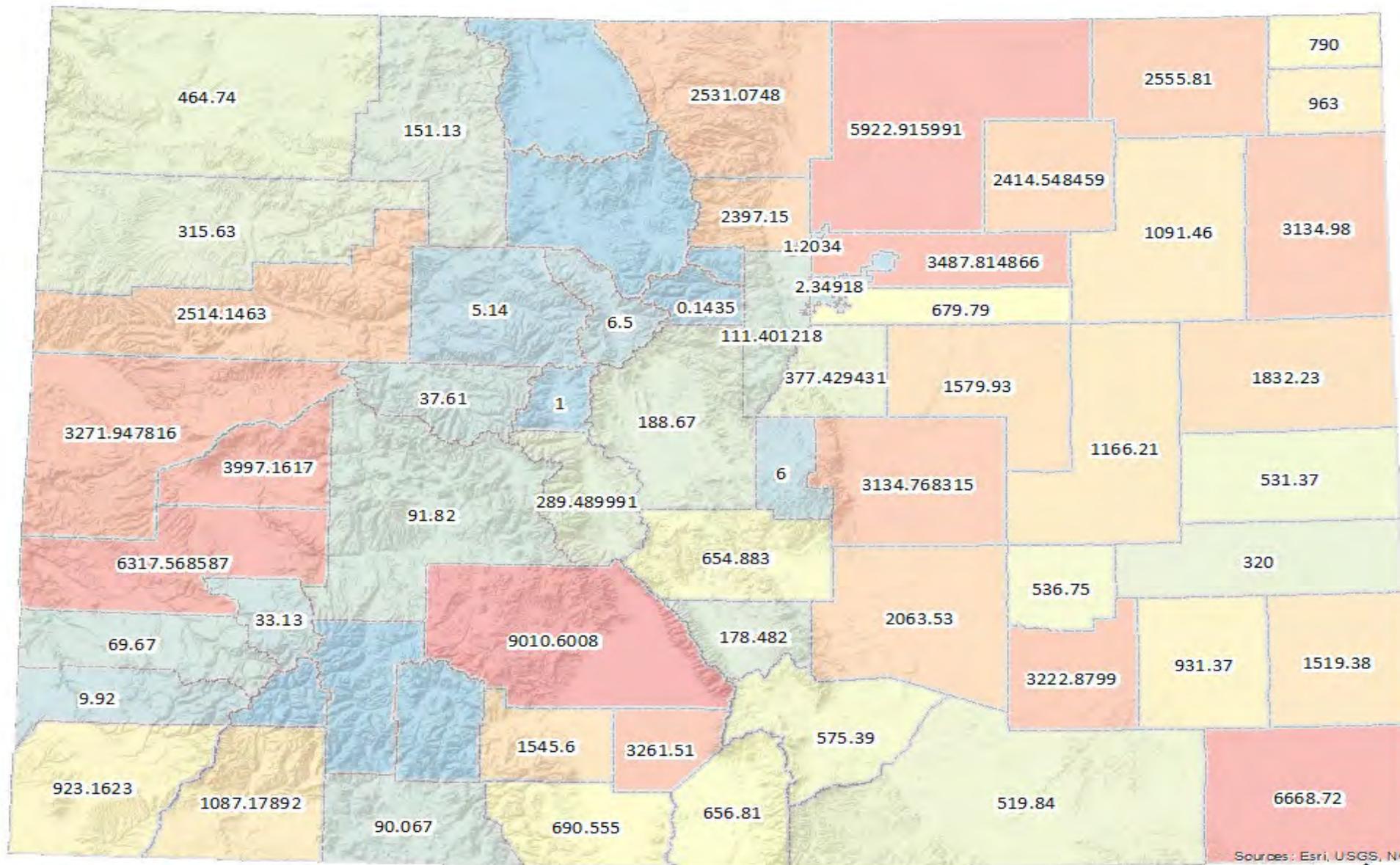
Sources: Esri, USGS, NOAA



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**Number of Registered Hemp Farms per County  
 as of October 2019**





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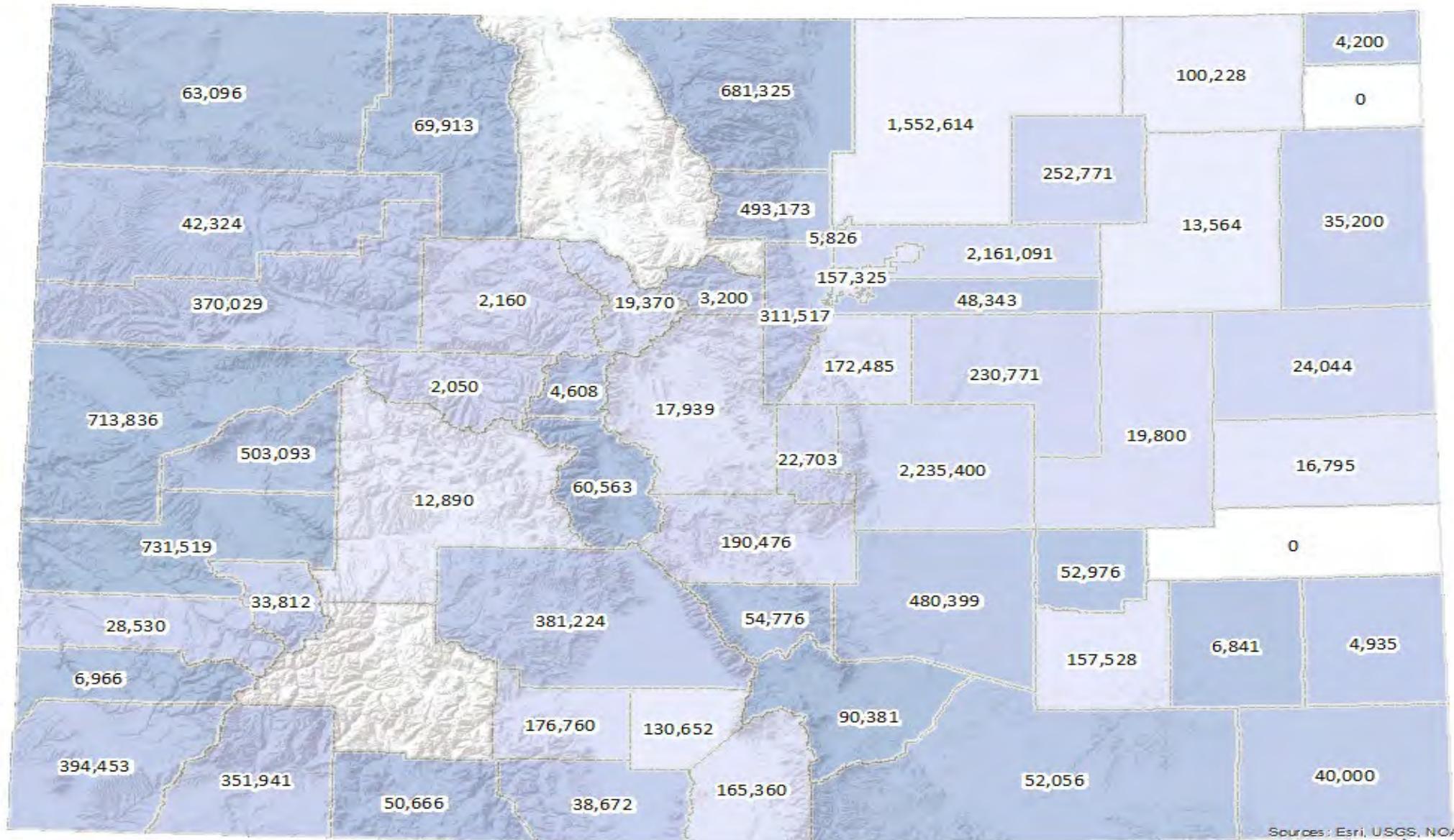
**Number of Registered Hemp Acres per County  
 as of October 2019**

0 15 30 Miles



Sources: Esri, USGS, NOAA



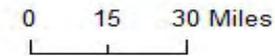


Sources: Esri, USGS, NOAA



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**Number of Registered Hemp Sq Ft per County  
 as of October 2019**



# Common issues in Colorado

- Land stewardship
- Water use
- Land right conflicts
- Black market marijuana
- Transportation
- Conflicts with agri-tourism
- Public health concerns
- Local government concerns
- Pollen drift

# Year In Review

## GROWTH OF PROGRAM

**HOP** → Hemp Online Portal

**PHASE 1: Application- In Beta Testing**

Estimated Launch to “Go Live” on website Mid November

**PHASE 2: Reporting**

Estimated available for testing 1<sup>st</sup> half of 2020

# Year In Review

## GROWTH OF PROGRAM

### SUMMARY

- Application season never ends!
- Have made a turn in the right direction
  - Staffing
    - Not just bodies in chairs, but organized team
  - HOP
- Backyard grows less, Very large (100-200+ growing as industry legitimizes, but small farms (1-25 acres) still dominate.
- Interest in the program still on rapid rise –Effect of 2018 Farm Bill and USDA regs have on participant numbers and type of grows (investors v. small family farms)

# **Certified Hemp Seed 2019**

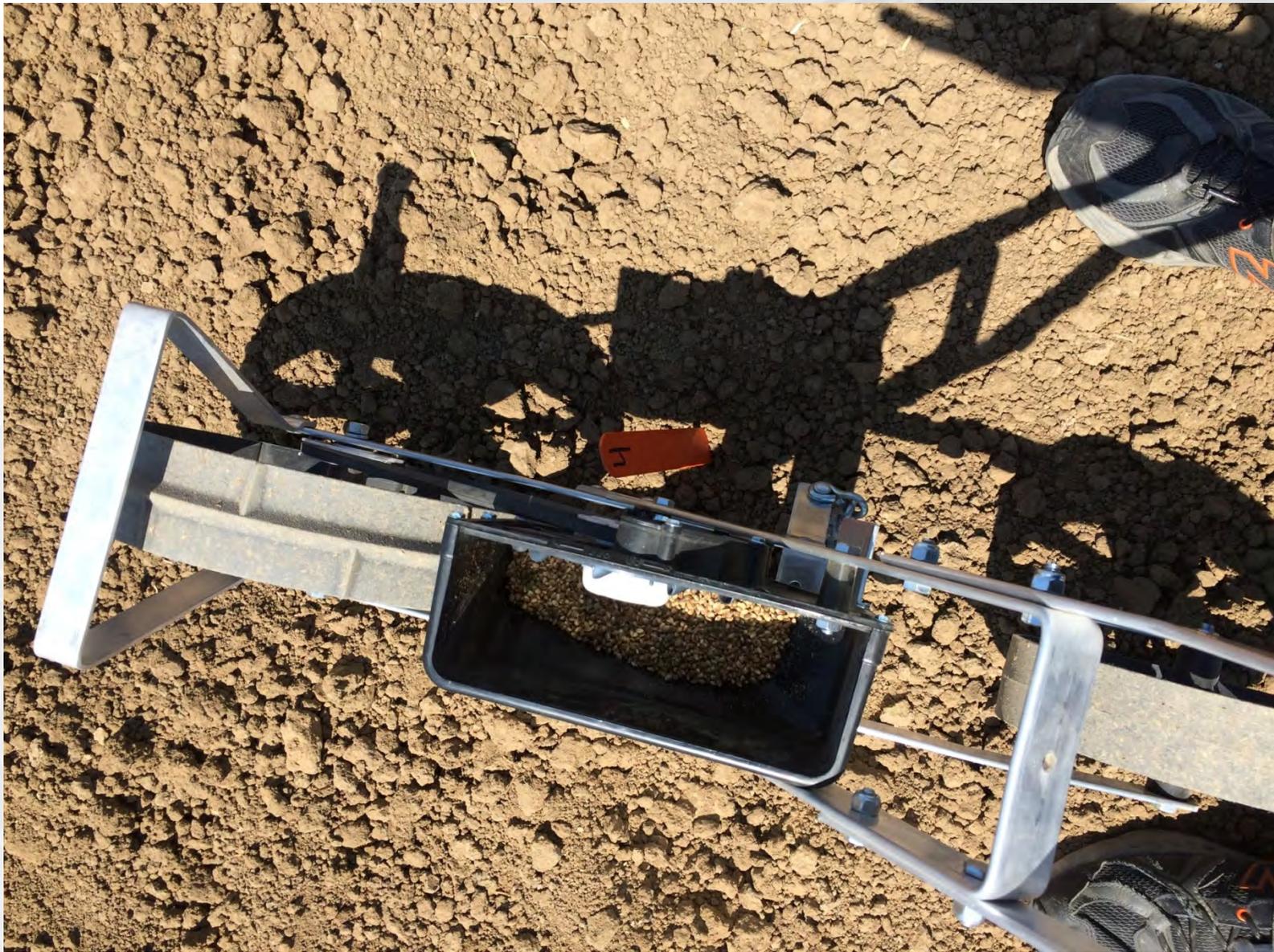
**Laura Pottorff**

# The Purpose of Seed Certification

- Seed Certification is the means of maintaining a pedigreed seed of a specific variety. Certified seed varieties result from years of careful effort on the part of plant breeders and growers to develop superior varieties.
- “Varietal Purity” is the first consideration in Seed Certification, but other factors, such as weeds, diseases, viability and mechanical purity, are also very important.

# SEED ISSUES

- Dealing with the consequences of registrants who purchased “bad seed”, “clones”, poor germ, poor vigor, feminized seed or high THC genetics
- To be addressed with education and Seed Law enforcement
- *Wild, Wild West Continues . . . throughout*



# Certified Seed Trials

**Seed Production= males and females/Pollination etc**



**Varietal purity and uniformity**



# 2019 Colorado Certified Hemp Seed Trials Results

- CSGA - genetic uniformity/purity
  - Variety
    - 1- approved
    - 2- approved
    - 3- incomplete application
    - 4- incomplete application
    - 5 - approved
    - 6- incomplete application
    - 7- not eligible for Seed Certification – feminized seed
    - 8 – failed to emerge in all 5 plots

# Why doesn't feminized seed fit within current Seed Certification guidelines??

- Feminized Seed

- produced in a way to make sure that all the resulting plants are female (since only female cannabis plants make buds).
- created by spraying developing flowers with a substance that changes flower development (often colloidal silver or gibberellic acid) forcing all plants to develop as female.
- Since all plants are female- *there can be no resulting progeny – only the progeny can be Certified*

Rocky  
Ford  
2017



# LEGISLATIVE UPDATE

## 2018 Farm Bill Requirements

- Maintain relevant information regarding land on which hemp is produced in the State or territory of the Indian tribe, including a legal description of the land, for a period of not less than 3 calendar years. *Colorado* ✓
- Procedure for testing, using post decarboxylation or other similarly reliable methods, delta-9 tetrahydrocannabinol concentration levels of hemp produced in the State or territory of the Indian tribe. *Colorado* ✓
- Procedure for the effective disposal of: plants, whether growing or not, that are produced in violation of this subtitle; and products derived from those plants.

# 2018 Farm Bill Requirements

- Procedure to comply with the enforcement procedures under subsection (e) of the Farm Bill.
  - *failing to provide a legal description of land* **Colorado** ✓
  - *producing Cannabis sativa L. with a delta-9 THC concentration of more than 0.3 percent* **Colorado** ✓
  - *any person convicted of a felony relating to a controlled substance under State or Federal law before, on, or after the date of enactment of this subtitle shall be ineligible, during the 10-year period following the date of the conviction*
  - *any person who materially falsifies any information contained in an application to participate in the program established under this section shall be ineligible to participate in that program* **Colorado** ✓

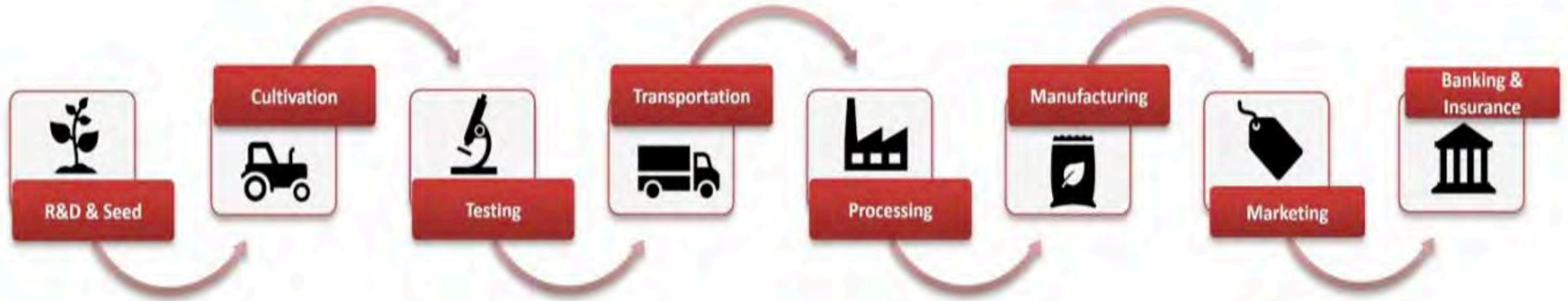
# 2018 Farm Bill Requirements

- Procedure for conducting annual inspections of, at a minimum, a random sample of hemp producers.  
✓ *currently random/risk sample in Colorado*
- Procedure for submitting the information described in section 297C(d)(2) of the Farm Bill to the Secretary not more than 30 days after the date on which the information is received.
- Certification that the state or Indian tribe has the resources and personnel to carry out the practices and procedures described in the Farm Bill.

## What is CHAMP?

- The Colorado Hemp Advancement & Management Plan, “**the CHAMP**” project
  - explore a regulatory blueprint
  - covers across the full supply chain of hemp, from the farm to the market
  - aims to establish Colorado as a premier marketplace.
- The CHAMP project will be a large stakeholder-based initiative
  - bring together top subject matter experts
  - Across the regulatory fields and private industry,
  - to advance the hemp industry in Colorado.

# The CHAMP Hemp Supply Chain



## CHAMP-what's next?

- **USDA disclosed hemp rules on November 1, 2019**
  - Urging careful consideration prior to state plans are submitted
  - Colorado to submit plan soon after USDA rules
- **CDA plan for USDA :**
  - R&D, Seed, Cultivation(includes disposal), Testing, and Transportation groups have submitted deliverables
  - Marijuana Policy Group (MPG) is consultant preparing plan for Colorado
  - MPG currently working with CDA and CHAMP executive committee to finalize plan

# Enforcement

- Immediate enforcement: hemp between 0.3% and 1.0% THC can receive waiver from disciplinary actions but grower must destroy crop
- Hemp >1.0% THC must destroy crop, not eligible to waiver
- Warning letters
- Cease and Desist Order
- Stipulation and Order (civil penalty up to \$2500 per violation)

# 2019 Violations

- Cultivating hemp without a registration
- Failure to report planting within 10 days
- Failure to submit report 30 prior to harvest
- Failure to comply removing crop within harvest window (5 days on either side of harvest date)
- Not responding to inspection notification within 10 days
- Exceeding .3% THC

# LAW ENFORCEMENT ISSUES

- Unregistered “hemp”
- Concentrated products exceeding 0.3%
- Not concerned about fields 1-2%
- Black market MJ
- Comingling/adjacent MJ and hemp
- Transportation issues
- Request for training

Questions?  
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