

Cannabis Agriculture 101

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Is it legal to grow and sell cannabis in California?

Cannabis is legal to grow commercially in California, but local governments can ban its cultivation, distribution, and sale. Currently, cannabis production is banned by local governments in the majority of California counties and many cities. However, the number of localities allowing production is increasing over time. Also, high THC cannabis remains federally illegal.

Even in localities that allow commercial cannabis production, local and state permits are required. Local and county governments grant permits to producers who meet criteria regarding zoning, set backs, and other factors. Local and county permits, as well as permits from multiple state agencies must be obtained and submitted to the California Department of Agriculture, which issues the cultivation license required to participate in the legal marketplace.

You can grow cannabis for personal use in California. California law allows people to grow six plants for personal use. Cities and counties can prohibit outdoor growing but not indoor growing for personal use. Indoor growing for personal use, however, can be significantly regulated by local entities.



How is cannabis grown?

Cannabis is grown indoors, in greenhouses, and outdoors. State and local governments typically offer different permits depending on the method of cultivation, which are each subject to specific limitations on cultivation size.

CULTIVATION TYPES

Indoor

- Uses artificial light to grow cannabis plants.
- Plants may be grown in soil or hydroponically.
- Often use municipal water but sometimes use well water
- Major cost: electricity to light grow facilities and control temperature.
- Growers can produce multiple crops per year using indoor growing techniques.

Greenhouse

- Uses sunlight, and sometimes additional artificial light
- Manipulating light levels allows for multiple crops per year.
- Plants typically grown in soil (from on-site or imported).
- Water may come from municipal sources, wells, rainwater, springs, or streams or rivers,
- Permits are required when water is diverted from a spring, stream, or river to grow cannabis.

Outdoor

- Uses sunlight exclusively for plant growth.
- Plants grown in planters with imported soil or directly in native soil.
- Like greenhouse cultivation, water sources for outdoor production vary.
- Traditionally, outdoor farming produces one crop a year which is planted in the spring and harvested in fall.

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How many cannabis growing facilities are there?

As of August 2020 there were approximately 5,700 facilities permitted in California. This number is continually increasing as more farms complete the licensing process. There are also agricultural facilities permitted as cannabis nurseries and processors. The California Department of Food and Agriculture list of all licenses they have issued in the state.

Counting non-permitted farms is complicated. There is no state agency that collects state-wide yearly records of non-permitted farms. Different researchers and agencies may collect information in some areas of the state annually, but there is not a standard method for counting farms – some count individual fields or grow sites, while others summarize these sites within parcel boundaries to count “farms”. It is typical for an unpermitted farm to have 2-5 grow sites, so counting sites instead of farms leads to much larger counts.

There are many unpermitted farms. Our research suggests that in the fall of 2018 there were at least 10,000 farms operating without permits in Humboldt and Mendocino Counties alone. Likewise, in 2017 we documented thousands of farms in Siskiyou and Calaveras Counties. It is likely cannabis is being grown without permits in most counties in the state. While it is impossible to get a precise count of unpermitted farms, we estimate number of unpermitted farms is at least double the number of permitted farms.

How large are cannabis farms?

Relative to other types of agriculture, cannabis farms are extremely small. For the part of the state for which we have most comprehensive data, Mendocino and Humboldt Counties, the average size of cannabis farms (permitted and non-permitted) is less than ½ acre. However, there is evidence that newly permitted farms in other parts of the state are larger. For instance, permitted farms in Santa Barbara County average nearly three acres. Still, relative to other types of agriculture these are small farms. The average size of a vegetable farm in California is 60 acres and the average size of an almond farm is 44 acres. The total footprint of cannabis in the state is likely less than 2,000 acres out of a total of 27 million acres of land under agricultural production.

For more information, visit: crc.berkeley.edu or contact vanbutsic@berkeley.edu

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