



Basics of Medicinal Marijuana Cultivation

**San Luis Obispo County Agricultural Liaison
Advisory Board meeting March 7, 2016**

BY CENTRAL COAST GROWERS ASSOCIATION

How Marijuana Plants Are Created

- ▶ Seeds or cloning from mother plants.
- ▶ Clones: small trimmings taken from a “mother” plant (larger immature plants kept in a vegetative state).
- ▶ Clones take up to 2 or more weeks to start rooting, and are then transferred into pots with soil or other growing mediums.



The 2 Stages of Plant Development

- ▶ **Stage One: Immature plants**
- ▶ Regarded as being in “vegetative state”.
- ▶ Grown under 18 to 24 hours of light to keep them from maturing (flowering).
- ▶ Range in size from seedlings or clones, to large “mother” plants.

The 2 Stages of Plant Development

Immature plants: About 4 weeks old



The 2 Stages of Plant Development



- ▶ **Stage Two: Mature Plants**
- ▶ Referred to as being in “flower” state.
- ▶ Female plants produce flowers (“buds”) which are harvested at the end of the plant’s life cycle.
- ▶ These plants are kept in 12 hours of light and 12 hours of darkness.
- ▶ Although plant strains vary widely, most flower for 60 days until their life cycle begins to wind down. Buds are harvested at their peak, and the plant is discarded.

Three Different Methods of Growing



▶ Indoor Grown

- ▶ These plants are kept in a climate-controlled, indoor facility through both stages of plant development. There is no growing season for indoor operations.
- ▶ Plants are either grown in a hydroponic/aeroponic setting using recycled nutrient-enriched watering systems, or with pots filled with soil using a drain-to-waste system.
- ▶ The lights used are typically 1000W and cover a growth canopy of roughly 4ft x 4ft.
- ▶ The size of an indoor operation is usually defined by how many lights are being used.

Three Different Methods of Growing



▶ **Outdoor Grown**

- ▶ Referred to as “full Season”.
- ▶ The season for these plants is approximately April until late October.
- ▶ The 2 stages of plant development are typically controlled by mother nature. Later in the season as day length shortens, the plants will naturally move from vegetative to flowering plants.
- ▶ These plants are grown in pots, flower beds or directly in native soil.
- ▶ Plant growth is larger because of the larger root base and full sun. The lifecycle is typically longer because it is not controlled by the farmer.
- ▶ Plants will vary in size and quality depending on topography, weather and skill of the farmer.

Three Different Methods of Growing



▶ **Greenhouse Grown**

- ▶ Allows the farmer to use natural sunlight while having a controlled environment.
- ▶ Through “light deprivation,” the farmer controls the 2 stages of plant development by covering the greenhouse to create 12 hours of darkness, and uncovering for 12 hours of light.
- ▶ Plants are either grown in pots or planter beds.

Commercial Operations



- ▶ Investments to start a typical commercial operation is substantial.
- ▶ The operation of every farm will vary with physical limitations, resources, the skill of the farmer, and future local/state ordinances.
- ▶ While greenhouses can be any size, most commercial cannabis farmers will build greenhouses between 1,500sf to 5,000sf.
- ▶ Many farmers may use both outdoor and greenhouse methods on the same farm during any given season.

Commercial Operations



▶ **Water Consumption**

- ▶ Many variables determine water consumption, including type of soil, air temperature, humidity, length of day, cloud cover, different types of strains, the size of plants, and the stage of plant development.
- ▶ For example: Depending on the factors above, 500 gallons of water could irrigate a 2,000 sf greenhouse for 2 weeks on cold, cloudy days; or for 2 days on hot, dry days.

Commercial Operations

Typical harvests per season:

- ▶ Outdoor: 1 per year*
- ▶ Indoor: As many as 4 per year*
- ▶ Greenhouse: As many as 3 per year*

*depending on the experience of the farmer

Plant Count vs Canopy Size

- ▶ **Outdoor:** Plant count is based on what has been planted, not the square footage or canopy size.
- ▶ **Greenhouses/ indoor:** It is our strong recommendation that the canopy size for greenhouse and indoor operations should be the governing factor for regulatory control. This method is undisputable, non subjective, easy to evaluate, and can be determined with a tape measure.
- ▶ For example, using a 2,000 sf greenhouse
- ▶ 16 plants per sf = 125 plants in the greenhouse.
- ▶ For every 125 mature plants flowering inside a greenhouse, there are 125 immature plants being raised to take their place when the 60 to 90 day life cycle ends. Therefore, each greenhouse on the farm will require a minimum of 250 plants.
- ▶ The plant count will vary depending on many factors, including the number and size of each greenhouse on the farm, the different stages of plant development, cloning of plants, the number of mother plants, physical limitations of the farm, and the skill of the farmer.

The Need For Regulation

- ▶ **Environmental Protection**
- ▶ **Public Safety**
- ▶ **Taxation: Revenue stream for local government**
- ▶ **Employment opportunities for local residents**
- ▶ **Desperately needed legalization that provides a safe process for a patient and their caregivers to access medicine**

What does Medical Cannabis mean to SLO County's local family farms

Creates a financial lifeline for many struggling local farmers.

Provides a sustainable low water crop for drought stricken farms that are currently facing many challenges in operating and keeping their family farms.

Opens up many opportunities down stream of cultivation, plant processing, manufacturing of plant products, distribution, and sales.

Local regulation will provide a level of protection of the crops through proper business security.

Next meeting agenda/presentation

- ▶ **Sharing model ordinances that we believe will work best in SLO County.**
- ▶ **Ordinances proven effective in other communities, i.e. Silicon Valley.**
- ▶ **Creating community partners by working together with complete transparency.**
- ▶ **Working together to thrive by reducing cultural misconceptions in our unique environment**
- ▶ **Protecting small farmers**
- ▶ **Protecting water resources**
- ▶ **Creating jobs**
- ▶ **Addressing your unanswered questions**