

Economic Botany

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Cannabis sativa(Indian Hemp)

- It is a native of western and central Asia.
- It is a multipurpose plant yielding textile fibre, oil and a narcotic drug.
- In India it is cultivated in W.B., M.P., Maharashtra and T.N. under strict vigilance of Govt. as it used as an intoxicant.

INTRODUCTION

- Most widely used illegal drug in world.
- Cannabis , more commonly called , marijuana, refers to the several varieties of *Cannabis sativa*, or Indian hemp plant, that contains the psychoactive drug Delta -9-tetrahydrocannabinol (THC).
- Other name are grass, pot, weed, tea, mary Jane, dagga, sinsemilla, herb, reefer, dope, shunk, boom, gangster, kif.

PREPARATION OF CANNABIS

- Male and female plants separated.
- Female contain **highest** concentration of THC.
- Flowering top has highest THC concentration.

MARIJUANA: Prepared from dried flowering tops and leave of plant.

- THC concentration 0.5- 5%.



HASHISH (Hash or charas): consist of dried cannabis resin.

- Light brown to almost black color.
- THC concentration 5-8%.



HASH OIL: it obtained by extracting THC from Hasish or Marijuana in oil.

- Clear pale yellow / green to brown black colour.
- THC concentration 15-30%.



GANJA: Buds and flowering top of female plant.



BHANG: Cut and dried large leaves & stem of plants.



METHOD OF USE

INHALATION: cannabis is typically smoked as marijuana in hand rolled cigarettes or **JOINTS**.



◦ **WATER PIPE** or **BONG** is use to deliver bolus dose.



◦ Hashish may smoke in joints or pipe with or without tobacco.

◦ Hash oil is extremely potent, a few drop is applied on cigarette or joint.

ORAL ROUTE:

By eating hashish baked in brownies or cookies.

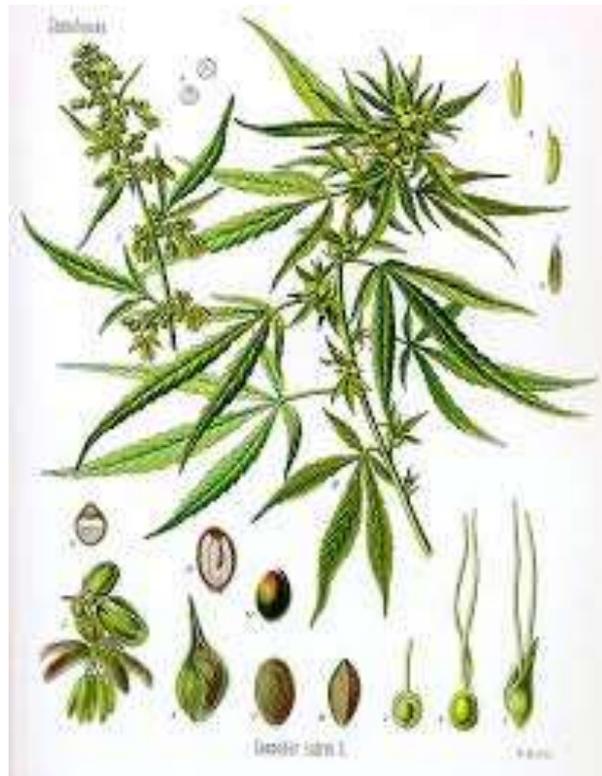
INDIA: in India bhang, ganja is a common form , that is use frequently at various occasions like (Holi, Shivratri) in which use like milk based drink called **THANDAI** or typically smoked (ganja / charas) in **CHILAM** or mixed with tobacco of cigarettes.

MANOKA a dry slightly sweetish preparation consisting of bhang paste.

Botanical Characteristics

- It is a stout annual herb of 1-5 m high.
- Leaves palmately compound
- Dioecious with male flowers in long drooping axillary and terminal panicles and female in short axillary leafy spikes.
- All plant parts are densely clothed with glandular hairs.
- Fruit -Achene





Cultivation

- It is a weed growing in waste land. It thrives best on fertile well drained soil.
- Grown widely spaced under warm tropical conditions.
- Narcotic constituents are conc. In the resin (mixture of cannabinal and physiologically active isometric tetra hydro-cannabinols) produced by glandular hairs.

Seeds

- Cannabis seeds, formed when pollen fertilizes the female plant, are ready to plant and grow as soon as they successfully germinate, or once the root has broken through the seed.
- While you can plant your seeds directly into the ground, it's recommended to germinate them in a moist paper towel before planting. Home cultivators often start with feminized seeds to ensure that the adult plant is a flowering female.
- Propagation through seeds is commonly known as sexual propagation, and is an often preferred method for outdoor cannabis cultivation because it makes for a more durable plant.
- Not only do sexually propagated crops have a greater yield potential than clones, they're also more resistant to pests, illnesses, and diseases.

Clones

- Asexual propagation, also known as cloning, is the replication of a single parent plant outside the means of sexual reproduction. Cannabis clones typically start with a cutting of a stable mother plant, which is likely to grow into a genetically similar plant under the right growth conditions.
- A clone's central purpose is to reproduce and preserve the genetic identity of a cannabis plant.
- When grown under the exact same environmental conditions as the mother plant, a clone is infinitely more likely than a plant grown from seed to exhibit the mother plant's physical traits, as well as its cannabinoid and terpene profile.

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Watering

Overfeeding nutrients is extremely common for beginners growing medical marijuana.

When all else fails, follow the directions on the nutrition label. Watering is very important for plants.

Overwatering kills marijuana plants.

A marijuana plant should not have a wet soil, only a moist one. Before you water your soil, measure how dry or wet it is.

To promote a healthy growth remember to regularly water your marijuana plant once the top few inches of the soil dries out.



Sunlight

Marijuana grown outdoors should be planted in a location that receives at least eight hours of sun each day.

Areas that get early morning and afternoon sunlight are the best. If you're growing marijuana indoors, location is very important in growing medical marijuana.

You will need to either find a place that gets a lot of sunlight (ex. greenhouses) or invest in some growing lights to ensure that your plants get the appropriate amount of light.



Long time marijuana growers will advise that the basement is the perfect place to grow your plant because managing the temperature will be easier.

However, as long as you can control the humidity, temperature, and ventilation of your location, you can start growing medical marijuana on your own far from a basement.

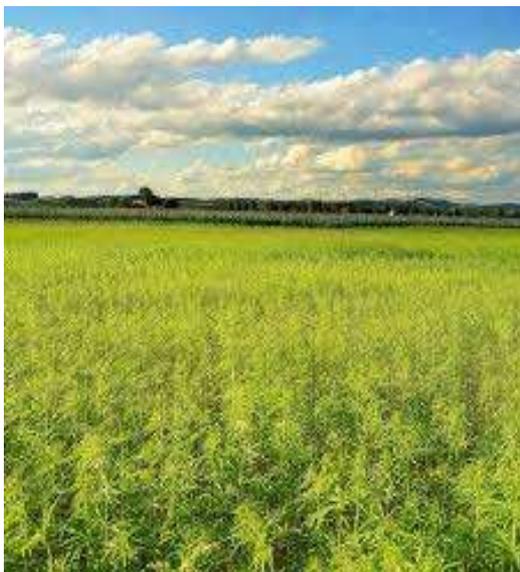
Harvesting

- A female plant is generally ready to harvest when the glands on the top of the capillary stalked trichomes turn from clear to a milky white color.
- Some cultivators are also able to use the color of the stigmas to time their harvest. Stigmas tend to change from either white to orange or red to brown.
- Once the cannabis plant is ready for harvest, its precious and delicate trichomes are in one of their most vulnerable states. Overexposure to oxygen, light, and/or heat may degrade cannabinoids and terpenes, or activate them prematurely.
- Trichomes become more fragile and therefore more susceptible to breaking off the plant if mishandled under extreme conditions.
- When harvesting cannabis plants, growers should implement methods of drying, trimming, and curing that reduce the amount of agitation the plant experiences in order to limit any damage to the trichome glands

Himalayan villages growing Cannabis



Cultivation of Cannabis



Harvesting of Cannabis



Uses of Cannabis

- It is used in above 3 forms as fumitory.
- Medicinally used as sedative, analgesic, narcotic(stimulant), treatment of hysteria, nervous disorders.
- Smoked in cigarettes or sniffed. Bhang is taken with cold drink(thandai) in India.

Uses of Cannabis



Uses of Cannabis



References

- Economic Botany by Albert F. Hill
- Economic Botany by BP Pandey
- Economic Botany by Singh, Pandey & Jain
- Internet Archives