



Indoor Cannabis Cultivation

This is a flossmanual released by the Open Drugs movement. It is a collection of two guides on how to grow Cannabis indoors. It contains the **Indoor Cannabis Cultivation Guide v1.2** by weedfarmers.com as well as **Indoor Marijuana Cultivation** found in the free library of manuals on greenmanspage.com.

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Indoor Cannabis Cultivation Guide 1.2

as found on weedfarmer.com

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Section 1: Choosing a space to grow

Choosing a space to grow indoors is just as important as choosing the proper space outdoors. Your garden should be located in an out of the way place (not the bedroom). Basements, attics, and closets are all great places.

Once you have a few possibilities in mind make sure they have access to electrical outlets. Plan ahead for anything that might require a repairman to visit your house. If your garden is located in the same room as the furnace, and the furnace explodes, you're in big trouble. Once the permanent garden location has been selected it is time to prepare it. (For the rest of this document I will assume you have chosen a closet as the grow space) Paint the walls flat white. Do not use tin foil because it can actually focus light like little laser beams and burn holes through the leaves. Next, cover the floor of the closet with plastic. This will help stop water damage to the floor.

Section 2: Containers

Your plants will need to be grown in some kind of cannabis container. Large plastic pots (like the ones bushes come in) work best. Fill the bottom inch with large gravel to help drainage. And the rest with high quality potting soil with some sand mixed in. Buckets can also be used but drill drainage holes in the bottom. If your containers previously held other plants then they must be sterilized with bleach or alcohol.

Section 3: Lighting

Since there is no sun in your closet you will have to provide a sun loving plant like cannabis with a lot of artificial light. There are three options available to the grower: fluorescent lights are cheap, efficient, and don't put out much heat. Metal halide, or MH bulbs, are more expensive but put out much more light than fluorescents. They also put out more heat so ventilation is needed. MH bulbs also require a separate ballast in order to work. High Pressure Sodium lamps, or HPS, put out as much light as MH lamps but with a little less heat. Ventilation and a separate ballast are also required.

Fluorescent lights

Fluorescent lights are the cheapest light to use. They run at about \$2 a tube. They produce little heat so ventilation may not be needed unless the space is very small. The light spectrum put out by these lights is suitable for all stages of growing. Because fluorescents disperse light over a large area, they need to be kept within three inches of the tops for the plants to receive enough light. This means you will have to mount the lights in a way that they can be raised every day.

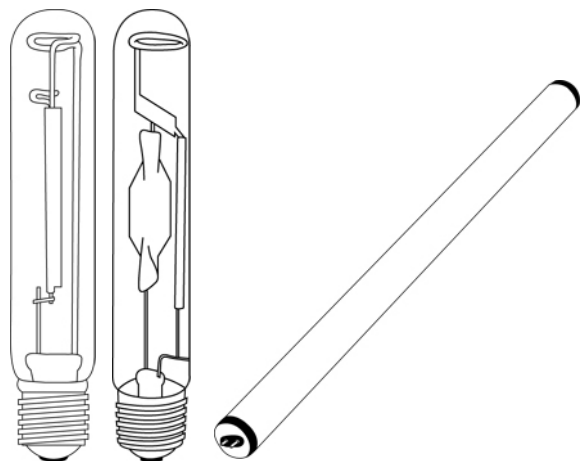
Metal Halide Lights

Metal halide lamps put out the most light. They also produce a lot of heat. A strong fan is needed to keep room temperatures down. MH lamps put out light mostly in the blue spectrum. Blue light is used best by the plant during vegetative growth. MH lights can also be used for flowering with no adverse effects. A separate ballast is required for these lights to work. They come in sizes from 40 to 1000W. One 1000W lamp will provide enough light in a closet to grow four plants.

High Pressure Sodium Lights

High pressure sodium lamps put out almost as much light as MH and with less heat. Good ventilation is still required though. HPS lamps produce light in mostly the red and orange end of the spectrum. The plants use this light best when flowering. HPS lamps can also be used for vegetative growth with little slow down in foliage production. HPS lamps require a separate ballast for operation.

Some growers switch between MH and HPS depending on what stage the plants are in. MH is used in vegetative growth and then the light is switched over to HPS once flowering begins. Most growers use fluorescents to start seedlings and root clones. The fluorescents are weaker than the MH and HPS lamps and therefore do not stress them too much. Choose whatever light is best suited for your situation. If you are growing in your attic go with MH or HPS. If you are growing in the closet like us, then use fluorescents. (For the rest of this document I will assume the reader is using fluorescent lighting)



Left to right: A High Pressure Sodium lamp, a Metal-Halide lamp and a fluorescent light tube

Section 4: Factors affecting the rate of photosynthesis

There are other factors other than the obvious amount of light that reaches the plants that affect the rate of photosynthesis. These can be manipulated by the grower to achieve maximum speed of growth and larger yields in a shorter period of time.

Humidity

The humidity in the environment is the amount of water vapor present in the air. Most growers know that humidity in excess of 85% percent increases the probability of the appearance of bud mold. The humidity is also critical during germination when the seedlings are extremely fragile. Humidity should be kept over 80% at this stage in the plants life to prevent the soil from drying too fast. Experimentation has shown that a relative humidity of 65% to 80% increases growth rate. Below this level the plants develop extremely narrow and tissue paper thin leaves to try to prevent excess loss of water. Above 80% relative humidity the plant have trouble disposing of toxic chemicals through evaporation.

Temperature

Cannabis can survive temperatures from 32 degrees F to over 100 degrees F. Cannabis will grow best with a temperature of 70 to 75 degrees F day and night. Higher than 90 degrees F the enzymes within the plant begin to breakdown and photosynthesis is affected. The same is true for low temperatures.

Carbon dioxide

Carbon dioxide is a gas that is essential for the light reactions in all plants that carry on photosynthesis. CO₂ is absorbed through the leaf's stomata and is combined with water and light energy to form glucose (used by the plant as energy) and oxygen (which is released). Therefore supplementing CO₂ to

the existing amount in the air will speed up photosynthesis and therefore, growth will occur faster. Experimentation has also shown that CO₂ can help cannabis tolerate higher temperatures (up to 95 degrees F) with little affect on the rate of photosynthesis.

Water

Although only a small portion of water absorbed by the plant is used in photosynthesis a shortage of water does affect the rate photosynthesis occurs. This happens because when the plant is low on water the stomata on the leaves close preventing the release of waste gases and other toxic chemicals. This closure will severely slow down or even stop photosynthesis from occurring.

°F	°C
32	0
70	21
75	24
100	37

Fahrenheit to Celsius conversion

Section 5: Sea of green

Sea of green, or SOG, is the theory of harvesting many small plants frequently, instead of large plants less frequently. In an SOG setup the closet is divided into two light tight spaces. In the top space the lights are permanently set on a 12/12 light/dark timer. On the bottom the lights are kept on for 18 hours per day. Flourescent lights are used throughout. The bottom shelf is used to start seedlings and root clones. The top shelf is used for flowering. Using this setup harvesting can take place once a month.



Section 6: Ventilation

Cannabis like all other plants puts out waste through the stomata on it's leaves. Outdoors wind, rain and sun are present to evaporate these toxins from the leaf surface. Indoors the grower must create an enviroment. The best way to do this is with a fan of some kind. If the grow room is large enough then an regular cooling fan can be placed inside and left on all the time. If you are running a small closet operation then just opening the door twice a day to look at them will create enough air movement for healthy growth. A fan controlled by a thermostat will also work well. These can be found at most electronics stores.

If a large number of plants are to be kept a dehumidifier may be needed. If humidity levels are too high then the chances of mold will dramatically increase. A dehumidifier will cost a grower about \$100 so it isn,t really practical for the closet grower.

Section 7: CO2 supplementation

Some growers add CO2 to their grow rooms to increase growth rate. This has proved itself to be effective in many experiments. CO2 supplementation also helps the plants withstand higher temperatures of up to 95 degrees without slowing down growth. There have been complaints however, that CO2 supplementation during flowering reduces potency. Therefore, CO2 should be stopped when the lights are turned to 12/12.

Section 8: Early sexing

Since you control the light cycle in an indoor operation it is easy to sex the plants early and eliminate all the males. Just turn the lights down to 12/12 when the plants are eight inches high. Use a magnifying glass to examine the flowers and eliminate all the males.

Section 9: Obtaining seed

If you do want to pollenate some females to produce seed for the next crop it can be done so that only a few buds are pollinated and the rest remain as sinsemilla. First collect pollen from a male. The male should show desirable characteristics, like fast growth, potency and resistance to pest and mold. To collect the pollen just shake the branches into a plastic bag. Black paper can also be used to collect pollen. Just lie it on the floor around the plant, in a few days the paper will have quite a bit of pollen on it. The pollen can be stored in film canisters until it is needed. When needed, use a paintbrush to brush on the pollen to the LOWER branches of the female. The best way to be sure that all the seeds are mature before harvest is to just never harvest the pollinated branches. Let them die naturally so you can be sure they produce viable seed.

Section 10: Harvesting and drying

When you want your plants to start flowering just turn the lights down to 12 hours light and 12 hours dark. Then be patient and wait for flowering to complete. It helps the drying process a little if you don't water the week before harvesting. When you cut the plants remove the large fan leaves and add them to your compost pile as they are not usable for smoking. Place the plants in shoe boxes or paper bags and stir them around daily. In about three weeks the buds should be totally dry and ready to smoke.

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as found on greenmanspage.com

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Author's Preface

Indoor Marijuana Cultivation is becoming an American growing marijuana pastime. The reasons are varied. With the increased interest and experimentation in house plant cultivation, it was inevitable that people would apply their knowledge of plant care to growing marijuana. Many of those who occasionally like to light up a joint may find it difficult to locate a source or are hesitant to deal with a perhaps unsavory element of society in procuring their grass.

There is, of course, the criminal aspect of buying or selling grass; Growing marijuana is just as illegal as buying, selling, or smoking it, but growing is something you can do in the privacy of your own home without having to deal with someone you don't know or trust. The best reason for growing your own is the enjoyment you will get out of watching those tiny little seeds you picked out of your stash sprout and become some of the most lovely and lush of all house plants.

Anyone Can Do It

Even if you haven't had any prior experience with growing plants in your home, you can have a successful crop of marijuana by following the simple directions in this pamphlet. If you have had problems in the past with marijuana cultivation, you may find the solutions in the following chapters. Growing a marijuana plant involves four basic steps: Get the seeds. If you don't already have some, you can ask your friends to save you seeds out of any good grass they may come across. You'll find that lots of people already have a seed collection of some sort and are willing to part with a few prime seeds in exchange for some of the finished product. Germinate the seeds.

You can simply drop a seed into moist soil, but by germinating the seeds first you can be sure that the seed will indeed produce a plant. To germinate seeds, place a group of them between about six moist paper towels, or in the pores of a moist sponge. Leave the towels or sponge moist but not soaking wet. Some seeds will germinate in 24 hours while others may take several days or even a week.

Plant the sprouts. As soon as a seed cracks open and begins to sprout, place it on some moist soil and sprinkle a little soil over the top of it.

Supply the plants with light. Fluorescent lights are the best. Hang the lights with two inches of the soil and after the plants appear above the ground, continue to keep the lights with two inches of the plants. It is as easy as that. If you follow those four steps you will grow a marijuana plant. To ensure prime quality and the highest yield in the shortest time period, however, a few details are necessary.

Soil

Your prime concern, after choosing high quality seeds, is the soil. Use the best soil you can get. Scrimping on the soil doesn't pay off in the long run. If you use unsterilized soil you will almost certainly find parasites in it, probably after it is too late to transplant your marijuana. You can find excellent soil for sale at your local plant shop or nursery, K-Mart, Wal Mart, and even some grocery stores. The soil you use should have these properties for the best possible results: It should drain well. That is, it should have some sand in it and also some sponge rock or perlite.

The pH should be between 6.5 and 7.5 since marijuana does not do well in acidic soil. High acidity in soil encourages the plant to be predominantly male, an undesirable trait. The soil should also contain humus for retaining moisture and nutrients.

If you want to make your own soil mixture, you can use this recipe: Mix two parts moss with one part sand and one part perlite or sponge rock to each four gallons of soil. Test your soil for pH with litmus paper or with a soil testing kit available at most plant stores. To raise the pH of the soil, add 1/2 lb. lime to 1 cubic foot of soil to raise the pH one point. If you absolutely insist on using dirt you dug up from your driveway, you must sterilize it by baking it in your oven for about an hour at 250 degrees.

Be sure to moisten it thoroughly first and also prepare yourself for a rapid evacuation of your kitchen because that hot soil is going to stink. Now add to the mixture about one tablespoon of fertilizer (like Rapid-Gro) per gallon of soil and blend it in thoroughly. Better yet, just skip the whole process and spend a couple bucks on some soil.

Containers

After you have prepared your soil, you will have to come up with some kind of container to plant in. The container should be sterilized as well, especially if they have been used previously for growing other plants. The size of the container has a great deal to do with the rate of growth and overall size of the plant. You should plan on transplanting your plant not more than one time, since the process of transplanting can be a shock to the plant and it will have to undergo a recovery period in which growth is slowed or even stopped for a short while. The first container you use should be no larger than six inches in diameter and can be made of clay or plastic.

To transplant, simply prepare the larger pot by filling it with soil and scooping out a little hole about the size of the smaller pot that the plant is in. Turn the plant upside down, pot and all, and tap the rim of the pot sharply on a counter or the edge of the sink. The soil and root ball should come out of the pot cleanly with the soil retaining the shape of the pot and with no disturbances to the root ball. Another method that can bypass the transplanting problem is using a Jiffy-Pot. Jiffy pots are made of compressed peat moss and can be planted right into moist soil where they decompose and allow the passage of the root system through their walls. The second container should have a volume of at least three gallons. Marijuana doesn't like to have its roots bound or cramped for space, so always be sure that the container you use will be deep enough for your plant's root system. It is very difficult to transplant a five-foot marijuana tree, so plan ahead. It is going to get bigger. The small plants should be ready to transplant into their permanent homes in about two weeks.

Keep a close watch on them after the first week or so and avoid root binding at all costs since the plants never seem to do as well once they have been stunted by the cramping of their roots.

Fertilizer

Marijuana likes lots of food, but you can do damage to the plants if you are too zealous. Some fertilizers can burn a plant and damage its roots if used in too high a concentration. Most commercial soil will have enough nutrients in it to sustain the plant for about three weeks of growth so you don't need to worry about feeding your plant until the end of the third week. The most important thing to remember is to introduce the fertilizer concentration to the plant gradually. Start with a fairly diluted fertilizer solution and gradually increase the dosage. There are several good marijuana fertilizers on the commercial market, two of which are Rapid-Gro and Eco-Grow. Rapid-Gro has had widespread use in marijuana cultivation and is available in most parts of the United States. Eco-Grow is also especially good for marijuana since it contains an ingredient that keeps the soil from becoming acid. Most fertilizers cause a pH change in the soil. Adding fertilizer to the soil almost always results in a more acidic pH.

As time goes on, the amount of salts produced by the breakdown of fertilizers in the soil causes the soil to become increasingly acidic and eventually the concentration of these salts in the soil will stunt the plant and cause browning out of the foliage. Also, as the plant gets older its roots become less effective in bringing food to the leaves. To avoid the accumulation of these salts in your soil and to ensure that your plant is getting all of the food it needs you can begin leaf feeding your plant at the age of about 1.5 months. Dissolve the fertilizer in worm water and spray the mixture directly onto the foliage. The leaves absorb the fertilizer into their veins. If you want to continue to put fertilizer into the soil as well as leaf feeding, be sure not to overdose your plants.

Remember to increase the amount of food your plant receives gradually. Marijuana seems to be able to take as much fertilizer as you want to give it as long as it is introduced

over a period of time. During the first three months or so, fertilize your plants every few days. As the rate of foliage growth slows down in the plant's preparation for blooming and seed production, the fertilizer intake of the plant should be slowed down as well. Never fertilize the plant just before you are going to harvest it since the fertilizer will encourage foliage production and slow down resin production. A word here about the most organic of fertilizers: worm castings. As you may know, worms are raised commercially for sale to gardeners. The breeders put the worms in organic compost mixtures and while the worms are reproducing they eat the organic matter and expel some of the best marijuana food around.

After the worms have eaten all the organic matter in the compost, they are removed and sold and the remains are then sold as worm castings. These castings are so rich that you can grow marijuana in straight worm castings. This isn't really necessary however, and it is somewhat impractical since the castings are very expensive. If you can afford them you can, however, blend them in with your soil and they will make a very good organic fertilizer.

Light

Without light, the plants cannot grow. In the countries in which marijuana grows best, the sun is the source of light. The amount of light and the length of the growing season in these countries results in huge tree-like plants. In most parts of North America, however, the sun is not generally intense enough for long enough periods of time to produce the same size and quality of plants that grow with ease in Latin America and other tropical countries. The answer to the problem of lack of sun, especially in the winter months, shortness of the growing season, and other problems is to grow indoor under simulated conditions. The rule of thumb seems to be the more light, the better. In one experiment we know of, eight eight-foot VHO Gro-Lux fixtures were used over eight plants. The plants grew at an astonishing rate. The lights had to be raised every day. There are many types of artificial light and all of them do different things to your plants. The common incandescent light bulb emits some of the frequencies of light the plant can use, but it also emits a high percentage of far red and infra-red light which cause the plant to concentrate its growth on the stem. This results in the plant stretching toward the light bulb until it becomes so tall and spindly that it just weakly topples over. There are several brands of bulb type. One is the incandescent plant spot light which emits higher amounts of red and blue light than the common light bulb. It is an improvement, but has its drawbacks. It is hot, for example, and cannot be placed close to the plants.

Consequently, the plant has to stretch upwards again and is in danger of becoming elongated and falling over. The red bands of light seem to encourage stem growth which is not desirable in growing marijuana. The idea is to encourage foliage growth for obvious reasons. Gro-Lux lights are probably the most common fluorescent plant lights. In our experience with them, they have proven themselves to be extremely effective. They

range in size from one to eight feet in length so you can set up a growing room in a closet or a warehouse. There are two types of Gro-Lux lights: The standard and the wide spectrum. They can be used in conjunction with one another, but the wide spectrum lights are not sufficient on their own. The wide spectrum lights were designed as a supplementary light source and are cheaper than the standard lights. Wide spectrum lights emit the same bands of light as the standard but the standard emit higher concentrations of red and blue bands that the plants need to grow. The wide spectrum lights also emit infra-red, the effect of which on stem growth we have already discussed. If you are planning to grow on a large scale, you might be interested to know that the regular fluorescent lamps and fixtures, the type that are used in commercial lighting, work well when used along with standard Gro-Lux lights. These commercial lights are called cool whites, and are the cheapest of the fluorescent lights we have mentioned. They emit as much blue light as the Gro-Lux standards and the blue light is what the plants use in foliage growth.

Now we come to the question of intensity. Both the standard and wide spectrum lamps come in three intensities: regular output, high output, and very high output. You can grow a nice crop of plants under the regular output lamps and probably be quite satisfied with our results. The difference in using the HO or VHO lamps is the time it takes to grow a crop. Under a VHO lamp, the plants grow at a rate that is about three times the rate at which they grow under the standard lamps. People have been known to get a plant that is four feet tall in two months under one of these lights. Under the VHO lights, one may have to raise the lights every day which means a growth rate of at least two inches a day. The only drawback is the expense of the VHO lamps and fixtures. The VHO lamps

and fixtures are almost twice the price of the standard. If you are interested in our opinion, they are well worth it. Now that you have your lights up, you might be curious about the amount of light to give you plants per day. The maturation date of your plants is dependent on how much light they receive per day. The longer the dark period per day, the sooner the plant will bloom. Generally speaking, the less dark per day the better during the first six months of the plant's life. The older the plant is before it blooms and goes to seed, the better the grass will be.

After the plant is allowed to bloom, its metabolic rate is slowed so that the plant's quality does not increase with the age at the same rate it did before it bloomed. The idea, then, is to let the plant get as old as possible before allowing it to mature so that the potency will be as high as possible at the time of harvest. One relatively sure way to keep your plants from blooming until you are ready for them is to leave the lights on all the time. Occasionally a plant will go ahead and bloom anyway, but it is the exception rather than the rule. If your plants receive 12 hours of light per day they will probably mature in 2 to 2.5 months. If they get 16 hours of light per day they will probably be blooming in 3.5 to 4 months. With 18 hours of light per day, they will flower in 4.5 to 5 months. It's a good idea to put your lights on a timer to ensure that the amount of light received each day remains constant. A "vacation" timer, normally used to make it look like you are home while you are away, works nicely and can be found at most hardware or discount stores.

Temperature and Humidity

The ideal temperature for the light hours is 68 to 78 degrees fahrenheit and for the dark hours there should be about a 15 degree drop in temperature. The growing room should be relatively dry if possible. What you want is a resinous coating on the leaves and to get the plant to do this, you must convince it that it needs the resinous coating on its leaves to protect itself from drying out. In an extremely humid room, the plants develop wide leaves and do not produce as much resin. You must take care not to let the temperature in a dry room become too hot, however, since the plant cannot assimilate water fast enough through its roots and its foliage will begin to brown out.

Ventilation

Proper ventilation in your growing room is fairly important. The more plants you have in one room, the more important good ventilation becomes. Plants breathe through their leaves. They also rid themselves of poisons through their leaves. If proper ventilation is not maintained, the pores of the leaves will become clogged and the leaves will die. If there is a free movement of air, the poisons can evaporate off the leaves and the plant can breathe and remain healthy.

In a small closet where there are only a few plants you can probably create enough air circulation just by opening the door to look at them. Although it is possible to grow healthy looking plants in poorly ventilated rooms, they would be larger and healthier if they had a fresh supply of air coming in. If you spend a lot of time in your growing room, your plants will grow better because they will be using the carbon dioxide that you are exhaling around them. It is sometimes quite difficult to get a fresh supply of air in to your growing room because your room is usually hidden away in a secret corner of your house, possibly in the attic or basement. In this case,

a fan will create some movement of air. It will also stimulate your plants into growing a healthier and sturdier stalk. Often times in an indoor environment, the stems of plants fail to become rigid because they don't have to cope with elements of wind and rain. To a degree, though, this is an advantage because the plant puts most of its energy into producing leaves and resin instead of stems.

Dehumidifying Your Growing Room

Cannabis that grows in a hot, dry climate will have narrower leaves than cannabis grown in a humid atmosphere. The reason is that in a dry atmosphere the plant can respire easier because the moisture on the leaves evaporates faster. In a humid atmosphere, the moisture cannot evaporate as fast. Consequently, the leaves have to be broader with more surface area in order to expel the wastes that the plant put out. Since the broad leaves produce less resin per leaf than the narrow there will be more resin in an ounce of narrow leaves than in one ounce of broad leaves. There may be more leaf mass in the broader leafed plants, but most people are growing their own for quality rather than quantity.

Since the resin in the marijuana plant serves the purpose of keeping the leaves from drying out, there is more apt to be a lot of resin produced in a dry room than in a humid one. In the Sears catalog, dehumidifiers cost around \$100.00 and are therefore a bit impractical for the "hobby grower."

Watering

If you live near a clear mountain stream, you can skip this bit on the quality of water. Most of us are supplied water by the city and some cities add more chemicals to the water than others. They all add chlorine, however, in varying quantities. Humans over the years have learned to either get rid of it somehow or to live with it, but your marijuana plants won't have time to acquire a taste for it so you had better see that they don't have to. Chlorine will evaporate if you let the water stand for 24 hours in an open container. Letting the water stand for a day or two will serve a dual purpose: The water will come to room temperature during that period of time and you can avoid the nasty shock your plants suffer when you drench them with cold water. Always water with room temperature to lukewarm water. If your water has an excessive amount of chlorine in it, you may want to get some anti-chlorine drops at the local fish or pet store. The most important thing about watering is to do it thoroughly. You can water a plant in a three gallon container with as much as three quarts of water. The idea is to get the soil evenly moist all the way to the bottom of the pot. If you use a little water, even if you do it often, it seeps just a short way down into the soil and any roots below the moist soil will start to turn upwards toward the water. The second most important thing about watering is to see to it that the pot has good drainage.

There should be some holes in the bottom so that any excess water will run out. If the pot won't drain, the excess water will accumulate in a pocket and rot the roots of the plant or simply make the soil sour or mildew. The soil, as we said earlier, must allow the water to drain evenly through it and must not become hard or packed. If you have made sure that the soil contains sand and perlite, you shouldn't have drainage problems. To discover when to water, feel the soil with your finger. if you feel moisture in the soil, you can wait a day or two to water. The soil near

the top of the pot is always drier than the soil further down. You can drown your plant just as easily as you can let it get too dry and it is more likely to survive a dry spell than it is to survive a torrential flood. Water the plants well when you water and don't water them at all when they don't need it.

Bugs

If you can avoid getting bugs in the first place you will be much better off. Once your plants become infested you will probably be fighting bugs for the rest of your plants' lives. To avoid bugs be sure to use sterilized soil and containers and don't bring other plants from outside into your growing room. If you have pets, ensure that they stay out of your growing room, since they can bring in pests on their fur. Examine your plants regularly for signs of insects, spots, holes in the leaves, browning of the tips of the leaves, and droopy branches. If you find that somehow in spite of all your precautions you have a plant room full of bugs, you'll have to spray your plants with some kind of insecticide. You'll want to use something that will kill the bugs and not you. Spider mites are probably the bug that will do the most damage to the marijuana plants. One of the reasons is that they are almost microscopic and very hard to spot. They are called spider mites because they leave a web-like substance clinging to the leaves. They also cause tiny little spots to appear on the leaves. Probably the first thing you'll notice, however, is that your plants look sick and depressed. The mites suck enzymes from the leaves and as a result the leaves lose some of their green color and glossiness. Sometimes the leaves look like they have some kind of fungus on them. The eggs are very tiny black dots.

You might be wise to get a magnifying glass so that you can really scrutinize your plants closely. Be sure to examine the underside of

Pruning

the leaves too. The mites will often be found clinging to the underside as well as the top of the leaves. The sooner you start fighting the bugs, the easier it will be to get rid of them. For killing spider mites on marijuana, one of the best insecticides is "Fruit and Berry" spray made by Millers. Ortho also produces several insecticides that will kill mites. The ingredients to look for are Kelthane and Malathion. Both of these poisons are lethal to humans and pets as well as bugs, but they both detoxify in about ten days so you can safely smoke the grass ten days after spraying. Fruit and Berry will only kill the adult mite, however, and you'll have to spray every four days for about two weeks to be sure that you have killed all the adults before they have had a chance to lay eggs.

Keep a close watch on your plants because it only takes one egg laying adult to re-infest your plants and chances are that one or two will escape your barrage of insecticides. If you see little bugs flying around your plants, they are probably white flies. The adults are immune to almost all the commercial insecticides except Fruit and Berry which will not kill the eggs or larva. It is the larval stage of this insect that does the most damage. They suck out enzymes too, and kill your plants if they go unchecked. You will have to get on a spraying program just as was explained in the spider mite section.

An organic method of bug control is using soap suds. Put Ivory flakes in some lukewarm water and work up the suds into a lather. Then put the suds over the plant. The obvious disadvantage is if you don't rinse the soap off the plant you'll taste the soap when you smoke the leaves.

We have found that pruning is not always necessary. The reason one does it in the first place is to encourage secondary growth and to allow light to reach the immature leaves. Some strands of grass just naturally grow thick and bushy and if they are not clipped the sap moves in an uninterrupted flow right to the top of the plant where it produces flowers that are thick with resin. On the other hand, if your plants appear tall and spindly for their age at three weeks, they probably require a little trimming to ensure a nice full leafy plant. At three weeks of age your plant should have at least two sets of branches or four leaf clusters and a top.

To prune the plant, simply slice the top off just about the place where two branches oppose each other. Use a razor blade in a straight cut. If you want to, you can root the top in some water and when the roots appear, plant the top in moist soil and it should grow into another plant. If you are going to root the top you should cut the end again, this time with a diagonal cut so as to expose more surface to the water or rooting solution. The advantage to taking cuttings from your plant is that it produces more tops. The tops have the resin, and that's the name of the game. Every time you cut off a top, the plant sends out two more top branches at the base of the existing branches. Pruning also encourages the branches underneath to grow faster than they normally would without the top having been cut.

Harvesting and Curing

Well, now that you've grown your marijuana, you will want to cure it right so that it smokes clean and won't bite. You can avoid that "homegrown" taste of chlorophyll that sometimes makes one's fillings taste like they might be dissolving. We know of several methods of curing the marijuana so that it will have a mild flavor and a mellow rather than harsh smoke.

First, pull the plant up roots and all and hang it upside down for 24 hours. Then put each plant in a paper grocery bag with the top open for three or four days or until the leaves feel dry to the touch. Now strip the leaves off the stem and put them in a glass jar with a lid. Don't pack the leaves in tightly, you want air to reach all the leaves. The main danger in the curing process is mold. If the leaves are too damp when you put them into the jar, they will mold and since the mold will destroy the resins, mold will ruin your marijuana. you should check the jars every day by smelling them and if you smell an acrid aroma, take the weed out of the jar and spread it out on newspaper so that it can dry quickly. Another method is to uproot the plants and hang them upside down. You get some burlap bags damp and slip them up over the plants. Keep the bags damp and leave them in the sun for at least a week. Now put the plants in a paper bag for a few days until the weed is dry enough to smoke. Like many fine things in life, marijuana mellows out with age. The aging process tends to remove the chlorophyll taste.