**Chapter One: Introduction to Cannabis**

**What is Cannabis?**

Cannabis, also known as Marijuana is a topic of major discussion across the world. A Cannabis plant’s leaf usually has 5-7 leaflets protruding from a center point. While some argue that it is harmful, Marijuana actually has many useful properties if consumed in small doses. Cannabis is mainly grown in three different varieties namely Cannabis sativa, indica and ruderalis. Although Marijuana seems to have originated from China, some say that it originated from Central and South Asia. It is speculated that it grew in the Himalayan Mountains of India. Cannabis has various names and is also known as hemp, pot, weed, ganja, bud etc. Cannabis is grown in many countries across the world. It is an annual flowering herb.

The first pair of leaves of the plant has a single leaflet, but the number gradually increases to a maximum of 13 leaflets per leaf. The number of leaflets depends on the variety of the plant and the conditions required for its growth. The top of the plant consists of only a single leaflet per leaf. Interestingly, the leaf arrangements in the plant vary as the upper leaf usually pairs in an alternate arrangement and the lower leaf pairs in an opposite arrangement. As the plant grows, the pairing occurs.

As the leaves grow in a peculiar pattern, many people get confused. It’s becuase the pattern of the leaves is very similar to another plant. As mentioned above, the leaflets extend outwards from a central point. This is common in serrated leaves where a central vein existing in each leaf extends outwards towards the tip. The serration vein arises from the lower part of the central vein and is usually opposite to the pattern of the next notch. This means that the leaflets grow in an opposite manner and also in an adjacent manner. All these patterns are handy to recognize the Cannabis plant. One doesn’t need special equipment to distinguish the Cannabis plant as it grows in a peculiar pattern. However, one would need special equipments and expertise to identify tiny samples of the Cannabis plant. This can be done by examining the samples through microscopic examination.

In addition, the Cannabis plant doesn’t have perfect flowers as the male and female flowers grow on separate plants. However, it is common for the male and female flowers to grow in the same plant. Though monoecious plants (a term in Biology where both the male and female reproductive organs are grown in the same plant) are called “hermaphrodites”, actual hermaphrodites grow the pistillate and staminate forms on individual flowers. In fact, monoecious plants have male and female flower growth at different spots on the very same plant. Male flowers usually grow on loose clusters or panicles and the female flowers grow on racemes.

The Chinese stated very long ago that the Cannabis plant is in fact, dioecious. The term “dioecious” means that the male and female reproductive organs grow separately. They distinguished the plant by naming the male and female Cannabis as “xi” and “fu” respectively.

All the recognized strains of the Cannabis plant are suggested to be wind-pollinated and the fruit is dry and one-seeded. In addition, the fruit does not open to release the seed and is commonly known as achene.

**Cannabis plant’s history:**

Marijuana’s history dates back to ancient ages. Chinese records state the use of the plant for medicinal purposes in 28 BC, which is more than 2000 years ago, but scientists say that plant may have been cultivated much before 28 BC. They say that because traces of the plant are found in Egyptian mummies. In addition, some also say that the plant might have originated in the Himalayan Mountains of India.

The Cannabis plant’s history dates back to ancient ages. It is the only plant in the world that is used both as a drug and as fiber, including its medicinal properties. Obviously, Cannabis has been a topic of huge topic of discussion among people all over the world.

People have used the Cannabis plant for its various useful properties dating back to thousands of years. Allegedly, the earliest reference of the plant comes in the Chinese treatise of Pharmacology dated back in 2737 BC. They state the various uses of the plant and its special medicinal properties.

In addition to that, another reference to the plant comes up in the Atharva Veda of the Hindus from India in the second millennium BC.

The Greeks preferred alcohol instead of Cannabis. However, you will find references of Cannabis in Homer as Helen brought Cannabis to Troy. Herodotus wrote that the Scythians grew a plant that was like flax but was definitely taller and thicker. H also wrote that it produced a vapor and that the people, transported by vapor, shouted aloud.

Herodotus has described the effects of the drug by saying that as people meet and sit around in a circle, they inhale the fruit and become intoxicated. The intoxication is induced due to the odor of the fruit as they throw more fruit into the fire, they become more intoxicated.

Other references of the Cannabis plant include Marco polo, Pliny and Abu Mansur Muwaffaq. The Arabian Nights state that Cannabis was grown to produce fiber and also for its psychoactive properties all over Asia and the Near East.

Cannabis was also introduced to Europe at a very early stage. The exact date is not known but it was probably introduced at a very early period. One can only speculate about its date of introduction in Europe as an urn of Cannabis seeds and leaves were found in Berlin is believed to be from 500 BC.

Southern and Central Europeans made clothes from hemp in the 13th Century and it became very popular. In addition, they also made Italian linen from help and flax and they mixed both hemp and flax in many cases.

The Africa also used Cannabis at a very early stage. Women smoked the plant prior to giving birth and they also grind the seeds and feed it to infants during weaning. In fact, it is reported that smoking the drug was actually encouraged, as workers appeared less tired after they smoked the drug. Mine practices involved smoking three smokes a day during their coffee breaks. Some tribes also used Cannabis and carried it wherever they travelled. It is also reported that if someone committed a mistake, he had to smoke the drug until he passed out.

Interestingly, a study from the South African Journal of Science states that pipes unearthed from Shakespeare’s home contain traces of Cannabis. The research was conducted as researchers concluded that Sonnet 27 and 76 referred to Cannabis and its uses. Cannabis has been used a reference in many classic literatures suggesting that they used Cannabis.

John Bourke described Cannabis as “Mariguan”. He stated that the plant can be used for medical purposes and can also cure asthma. In addition, it also quickens the process of delivery and keeps away witches. He also stated that many Mexicans used the herb and usually ate sugar to heighten the effects of the drug. Moreover, he states that the drug is also referred as “loco weed”.

**Growing the Cannabis plant:**

Almost like every other plant, Cannabis requires a few conditions for its growth too.

**Soil:**

Unless the plant is grown using the “aeroponics” technique (a technique of growing plants where the roots hang in a suspended fashion in the air and nutrients are supplied to them through a fine mist) soil is necessary for the Cannabis plant to grow. One can also cultivate the plant using the “hydroponics” method (a technique where a plant is cultivated using liquid or sand, without soil).

Nutrients are necessary for the Cannabis plant to grow well. Fertilizers provide nutrients to the plant and it is often used with caution.

The pH value should remain between 5.9 to 6.5 though this value can be adjusted.

**Temperature:**

The cannabis plant requires a moderate temperature of 24 to 30 degree C (75 to 86 degree F) as the THC potency of the plant reduces if the temperatures go below 15.5 degree C and abive 31 degree C respectively. Though some strains of the plant show that it withstands frost for a temporary amount of time, the plant goes into a “shock” once the temperature dips below 13 degree C. Once it dips below 0 degree C, ice crystals are formed.

**Light:**

Although some plants can grow in poor lit conditions, Cannabis requires light to grow. The plant is also cultivated in artificial light conditions. Cannabis can utilize a full 24-hour period and will still grow well, but it is normally under 16-20 hours of light and 4-8 hours of darkness. Many scientists debate that many plants, including Cannabis often reduce their photosynthetic response when they are subjected to constant light without an interval of dark periods. The overall development of the pant reduces as they lack vigor and they also show signs of a decreased vascular development. The “light” factor is very important as that induces flowering in the Cannabis plant. Flowering occurs when the plant is subjected to 12 hours of light and 12 hours of darkness. The Cannabis plant undergoes a flowering period as a result of the hormonal reaction induced within the plant. The hormonal reaction occurs due to the increase in the dark-period which means that the plant requires an increase in its dark-period for the flowering process to begin. However, all this depends on the type of Cannabis grown, as different types require different conditions. As mentioned above, Cannabis is grown in different varieties and the Indica requires 8 hours of dark-period to begin flowering while the Sativa needs up to 13 hours of darkness.

**Water:**

Water, as usual is the main factor for any plant to grow but watering also depends on various other factors like light, temperature, age and size of the plant. The watering frequency also depends on the plant’s capacity to retain water as too much watering can kill the plants. The Cannabis, just like many other plants, cannot sustain too much water.

Usually the plants show signs of dying if they are not watered properly and once can notice a downward wilt in the leaves. That is probably the first sign the plant shows. The water has to clean and clear of additives can unclean water mixed with chemicals can produce poor results. Though reverse osmosis filters the water and gets rid of chemicals, it is usually expensive. Therefore, well or spring water is usually the best and produces a high yield.

**Nutrition:**

Usually, plants feed themselves with required nutrition by drawing it from the soil. In case the soil lacks proper nutrition, extra soil nutrients are added. They are known as fertilizers. Fertilizers come in various forms like Chemical and organic; liquid and powder state. The fertilizers are a mix of required ingredients for the plant to grow. Most of the fertilizers show the levels of NPK used (Nitrogen, Phosphorus and Potassium).

The Cannabis plant requires more Nitrogen than Phosphorus and Potassium during its vegetative stage and needs more Phosphorus than Nitrogen and Potassium during its flowering stage.

Manufacturers who grow Cannabis try several methods to grow the Cannabis plant, as each variety requires a different way of handling them. They use fertilizers only if it is required as too much fertilizer harms the plant.

**Development Stages:**

Many plants undergo various stages of development and the Cannabis is no exception. It has different stages that include the germination, seedling, flowering and vegetative stages.

1. **Germination:**

Germination is described as the process where the seeds sprout. After the seeds sprout, they continue to grow. The process of germination starts after the seeds are soaked in water. It can be soaked in paper towels that are wet or they can be potted directly into the soil.

The Cannabis plant requires a period of 12 hours to 8 days for the germination. Several factors induce germination. Factors like water, moisture and darkness kick-start metabolic processes, which in turn initiate hormonal activation, and thus, the embryo inside the seed expands. Due to the expansion, the coat of the seed invariably bursts open releasing a tiny embryonic root and it continues to grow in a downward manner. It grows downward due to factors related to gravity. After a period of two to four days, the root anchors itself and two cotyledons emerge. Cotyledons are embryonic leaves in plants that bear seeds. The cotyledons are circular and search for light. As this happens, the other parts of the seed go away and this is the beginning of the seedling stage.

1. **Seedling stage:**

As mentioned above in the germination stage, the seedling stage begins when the coat of the coat breaks open, with an emergence of embryonic leaves (cotyledons). The seedling stage is the most vulnerable stage for the growth of the Cannabis plant as it requires moderate temperatures, humidity, light intensity (medium to high) and sufficient soil moisture.

People who grow Cannabis in an indoor area use fluorescent light bulbs in the seedling stage as it emits heat. Fluorescent bulbs are good as they emit little heat compared to MH and HPS lights. Too much heat can make the seedlings dry and destroy the plant.

After a period of four to six weeks, the plant begins to show sex characteristics that can be identified. Some manufacturers try to quicken the process by altering the light schedule of the plant. As mentioned above, the Cannabis plant enters a flowering stage once it is exposed to a 12-hour light and 12-hour dark state. Therefore, the manufacturers try to induce the flowering stage quickly and once they determine the sex, they remove the male plants and re-introduce it back to the vegetative stage. This is not recommended as forcing the Cannabis plant into the flowering state and returning it back to the vegetative stage produces poor yield. It not only reduces the yield, but it also reduces the potency of the Cannabis plant. To avoid this, manufactures flower the plant in a separate area by cloning the seedlings and rooting it.

1. **Vegetative Stage:**

After the seedling stage, the Cannabis plant enters the vegetative stage. The duration of the vegetative stage is for one to two months. During the vegetative phase, the Cannabis plant requires all the light it can get. It needs a minimum of 18 hours of light and also needs a lot of nutrients. Of course, nutrients and light again depends on the variety of the plant. At this stage, the Cannabis plant grows upwards vertically and begins to produce leaves.

One can distinguish the sex clearly at this stage and this also is a sign of the next stage. At this particular vegetative stage, the root goes downward to gain more water and food. Some strains that are newly developed skip the vegetative phase and enter the pre-flowering stage directly. This happens in the hybrids that flower automatically and they are developed newly.

As the plant develops more leaves that are new and finally gains seven sets of leaves with the eighth leaf at the centre of the tip, it is sign that the Cannabis plant has entered the vegetative stage of growth. During this stage, the plant sends all its nutrition to help in the development of the other parts.

As in any other plant, the root system of the Cannabis plant needs to very strong for the plant to grow well. It needs one to two months to develop before flowering. However, the Cannabis plant is ready once the sex is determined. The size of the plant also indicates the sex of the plant as female plants are shorter and have more branches compared to the male plant. This is due to the raceme type. In addition, the female plants have more leaves at the top of the plant and the male plants have lesser leaves compared to the females. The female plants have more leaves that surround the flowers too.

As the Cannabis plant grows quickly when it receives more light, cultivators often introduce it to a light period that extends from eighteen to twenty-four hours. To gain a maximum yield, a warm-cool temperature is best for the plant. In this stage, dark-periods are not necessary, but many cultivators introduce the plant to dark-periods anyway. There is a lot of debate related to the dark-periods as to whether it is beneficial to the plant, but many people employ that technique as well.

The Cannabis plant is grown indoors during its vegetative state and the amount of time required for it to grow depends on various factors. The factors include the flower, light and size of the space used to grow the plant. In addition, it also depends on the number of plants required to flower at a single time and the length of the strain. It is usually determined in the first two weeks of the flowering phase.

As mentioned above, Cannabis cultivators use fertilizers that are high in N P and K (Nitrogen, Phosphorous and Potassium). Along with the fertilizers they use, they also add fertilizers that are rich in micronutrients. The fertilizers they use to grow Cannabis have a high amount of Nitrogen and Potassium and it is used in the vegetative stage. They gradually increase the potency of the fertilizers as the plant develops and grows more.

Many cultivators modify the growth of the plant and this is referred to as “training”. Many training methods are employed to modify plants. They get rid of extensive shoots growing in the plant so that the plant receives more light and produces a better yield.

Some of the techniques employed for better results are:

1. **Topping:**

As the name suggests, cultivators remove the top of the apex of the plant and therefore, the top or the apex growly considerably quicker than the rest of the plant. This is called apical dominance and it can be repeated so that the plant grows in that fashion. Although this process can be repeated numerous times, it is recommended that it is done once or twice as repeated topping can induce poor quality buds. Topping also helps the entire plant below the cut to grow very quickly.

1. **Pinching:**

Pinching is also referred to as “super-cropping” and it is a process that is very similar to topping. This enables the lower part of the plant to grow very quickly and the stem maintains the apical dominance. This is very good as the plant has already gone through the topping process. Pinching is a technique that basically damages the structural and vascular cells when the apex of the apical meri-stem is pinched. Though it induces damage, it does not totally destroy the stem. While the plant heals, the lower part grows very quickly and later continues to resume apical dominance system.

1. **Low stress training:**

This method is also known as LST and is also similar to pinching or super-cropping. Hence, it is also called as LST Super-cropping. In this method, the cultivators bend and tie the Cannabis plants so that it grows in a particular shape. This method is recommended for cultivators who prefer to grow the plants indoors as they can grow the plants according to the shapes they prefer. It works great for them since they use bulbs to emit heat over the plants. This method helps the cultivator enabling him to grow all the plants in the same, uniform fashion. Also, the intensity of the light decreases with the distance of the light from the plant and therefore, this method is a great help for those who cultivate Cannabis indoors. LST can be employed along with the topping method as topping helps to increase the side shoots. Topping is usually employed prior to the LST method. It is usually employed about two weeks before using the LST method. Basically, the LST method alters the hormone distribution in the plant.

1. **Pre-flowering stage:**

Prior to the flowering phase comes the pre-flowering stage. This stage is also known as the “stretch” and usually takes a day to two weeks. As mentioned above, cultivators alter the light and dark periods of the plant depending on its stage. When they shift the routine of the plant to the 12 hour light and dark period, many plants last for about ten to fourteen days. At this particular stage, the plant grows rapidly and very often, the plant also doubles its size. As the plant enters the flowering stage, more branches and nodes develop. At this stage, the plant is ready to begin the process of flowering.

1. **Flowering Stage:**

After the pre-flowering stage comes the flowering stage. The duration of this stage is from about six to twenty-two weeks depending on the variety of the Cannabis plant. Cannabis Indica has a short flowering time when compared to the Cannabis Sativa. However, when both the Indica and Sativa are mixed, they have a different flowering time. The flowering time occurs in mid-way when both the varieties are combined.

Now that the sex of the plant is determined, it becomes easy to distinguish between the male and female plants. As the sex is determined in the first two weeks during the 12-hour light and dark periods, the male develops small balls and they form a cluster resembling grapes. If the male plants don’t fertilize the female, the female develops small buds with sticky white resin. This is done as a last attempt to pollinate. The resins contain the two major psychoactive substances the Cannabis plant is famous for, namely THC and CBD. As the females produce the resins, the energy of the resins sink into the seeds and therefore, seedless-cultivation is preferred by many cultivators. Seedless cultivation maximizes the resins and yields a better result. Cannabis plants with seeds are known to be grown with a poor technique, thus inducing poor results.

Now the Cannabis plant enters the flowering stage as it grows indoors and experiences a minimum of 10 hours of darkness every day. The number of hours of the dark-period is very important because though the plant flowers quickly when the numbers of dark-hour periods are induced, the yield is poor. Alternatively, though the plant takes a long time to flower when it experiences a shorter dark-period, the yield is very good. Most of the cultivators alter the routine of the light and dark periods at this time as many of the strains respond in different ways. The plant experiences up to eighteen hours of light every day in the summer and less than twelve hours of light in winter and fall season.

Like many other plants, the flowering hormone is present in Cannabis during all the stages of growth. The flowering depends on the light factor and the plant has to undergo a minimum of eight hours of dark-period every day. Of course, this again depends on the variety of the Cannabis plant and many cultivators grow them adapting to different time periods.

Flowers are referred to as “Bracts or Bracteole” and they are the most important parts of the plant. The flowering period begins after about one to two weeks and is visible. The plant grows more during the flowering stage and sometimes, triples in its size. After about five weeks of the flowering period, the bracts swell up and increase visibly in its size. This is known as swelling. In addition to the size of the bract, the weight increases too.

**Cultivating Cannabis outdoors:**

As discussed above, Cannabis can be grown indoors as well as outdoors. They can be grown in soil or potted directly. The strains of the plant grow different in different conditions, depending on the variety of the plant. In addition to that, different factors like light, water and soil also matter as discussed above. Quite simply put, the plant grows best when it is exposed to good fertile soil and experiences good long hours of day light. It is grown in different countries like India, Mexico, Nepal, Africa and The United states as the temperatures suit them.

Many cultivators who grow Cannabis outdoors prefer the Indica variety as it yields great results very quickly. It also matures very quickly with a short amount required to grow. However, other cultivators prefer the Sativa variety because it emits fewer odors compared to other varieties. In addition, it also responds in a better way to sunlight. As Cannabis cultivation is illegal in some countries, cultivators grow the crop mixing it with other crops. They grow it in between crops like maize and bamboo so that it remains hidden among tall crops.

**Cultivating Cannabis indoors:**

Cannabis, like many other plants can also be grown indoors utilizing artificial light. Of course, fertilizers and water is necessary for the plant to grow well. Many cultivators grow Cannabis indoors though it is more expensive than growing it outdoors since the cultivator has a total control over the atmosphere and plant. However, growing any plant indoors can be complicated compared to growing it outdoors.

Plants that grow indoors grow faster compared to plants outdoors as the cultivator can provide everything including light and water. Soil mixed with nutrients is also provided so that the plant grows well and yields a rich harvest.

A few requirements are necessary to grow Cannabis indoors. Among them, light supply is important as the plants experience artificial light instead of natural sun light.

**Light supply:**

A cultivator has to provide light supply to the plants to ensure that they grow well. As the plants are indoors 24-hours, the cultivator needs to imitate a natural supply of light by providing artificial light. The balance of the plant should not be disturbed and choosing the right artificial light is very important. As the Cannabis plant needs both the light and dark periods, the cultivator needs to time everything to perfection.

Nowadays, various types of lighting are available and the cultivator can choose the best ones. Some of the well known types of lighting known are the HPS and MH lamps. HPS is a high pressure sodium lamp and MH is a metal halide lamp. Many scientists have researched in this area and studies suggest that plants that are placed in between the MH and HPS lamps grow well instead of plants that placed directly placed the MH and HPS lamps individually. Cannabis actually grows well under both these lamps and cultivators have no problems using any of the two lamps. MH lamps are used during the vegetative stage of the growth of the Cannabis plant and it helps the plant a lot, as it emits more ultraviolet radiations compared to the HPS lamps. Ultraviolet radiation helps in the process of flowering and increases the potency of the THC produced. However, HPS lamps induce a better flowering stage and therefore, are used in the reproductive stage.

Many cultivators also utilize the LED technology too as they specifically help the growth of the Cannabis plant. The LED lamps contain diodes that emit energy and help the plant to grow well. However, the LED lights lack intensity compared to other lamps. Therefore, the LED lights are used only during the vegetative stage. The usage of LED lighting is still being experimented, as they are very expensive. The yields are not really very high and cultivators shy away from using the LED lights. Along with the lamps used to expose the plants to light, reflectors are also used to maximize the yield. The cultivators often shift the plants together so that they all receive equal lighting.

**Atmosphere:**

Another important factor that comes into consideration while growing plants indoors is the atmosphere. As the plants are used to a natural environment, the cultivator usually has to make sure that the plants receive moderate humidity and temperature. Many plants wilt because of an increase or decrease in temperature and the cultivator has to be very careful with the temperature.

For Cannabis, the temperature has to be controlled moderately and cannot exceed more than 10 degree C. In addition, it is important that the circulation of air and carbon dioxide within the room is good. As the air circulation is very important, many cultivators use extraction and oscillatory fans.

As mentioned previously, many countries restrict the use of Cannabis and therefore, cultivators have to make sure that the plant does not emit odors. Along with controlling the atmosphere and light, the cultivator also has to ensure that the plant limits its odor. In addition to growing Cannabis along with taller crops, many cultivators who grow the crop indoors use carbon filters to extract the odor emitted from the plant. The most common way used to eradicate odor is to attach a carbon filter to the extraction systems and odor is considerably reduced. Therefore, the carbon filter reduces the odor before it escapes the room.

Apart from using carbon filters, many cultivators use Ozone generators to eliminate odor. The air circulating inside the room is forced through the ozone generator through the extraction fan and the odor reduces as it mixes with the ozone. Though many cultivators use this method, they must ensure that the air shouldn’t be excessively concentrated as it might be harmful. Many people also grow Cannabis in their rooms and in addition to that, they also construct tents specifically to grow Cannabis.

Though the advantages of growing the crop indoors have been discussed above, it comes with its share of disadvantages. The most common problem is the damage inflicted by the plant on houses.

As the plant requires many electrical appliances like bulbs and fans, some houses may not take the load that comes along with it. The cultivator has to ensure that the place he grows the plants has all the necessary equipment required to grow the plant. In addition to that, the indoor housing may require holes in the walls and floors to maximize airflow. As one has to modify a lot of things indoors to ensure that the plant grows well, there is a lot of structural damage

**Manufacture of Cannabis:**

After the plant develops completely, it is harvested. However, as the Cannabis plant is used for various purposes, it is harvested before it develops completely sometimes.

**Harvesting:**

The seeds of the Cannabis plant are harvested only after it develops completely and the buds begin to deteriorate at the time. Hemp that is grown mainly for fiber is actually harvested even before the plant begins its flowering stage. Harvesting a Cannabis plant depends on the purpose of the cultivator. As the plant is used for many purposes, it can be harvested in different ways as discussed above.

When the cultivator decides to harvest the plant due to smoking purposes, he can employ the sinsemilla method. The method focuses on cultivating the bud. The pistils of the plant changes the color to reddish-brown from a clear or white color. When the color changes, it is an indication that the plant can be harvested and used for smoking purposes. After the harvesting, comes the curing stage.

Many cultivators often alternate the curing and drying techniques after the harvesting period is complete. They dry the harvest for 24 hours and cure it for 6 hours and sometimes they dry it for 12 hours and cure it for 6 hours. They repeat the process until the product is ready for sale. The buds, however, are complete and ready to be used within three to four days.

As mentioned above, the buds can be harvested within 3 to 4 days and they are harvested after they are completely ripe. The plant indicates the fact that it is ripe when the pistils change its color varying from yellow to orange and to red. Usually, many professionals and scientists use a microscope and magnifying glass to detect changes in the plant. The sugar content of the plant is measured using the magnifying glass too. The quality of the bud improves when the seedpods swell. If the plant is harvested early, the THC content of the plant is at its maximum and when it is harvested at a later stage, the THC content reduces and helps people who use the drug as a sleeping medicine.

**Drying:**

Cultivators usually start the drying process and dry the plant at a temperature of 16 to 21 degree C. As this is usually the room temperature, cultivators can do this efficiently. However, the cultivator has to ensure that the temperature does not exceed 21 degree C as the terpenoids of the plant evaporates very quickly. Terpenoids are molecules that emit odor and also psychoactive elements that the plant is famous for, comes from terpenoids.

This entire process may take a few days carrying on to a few weeks, but it also depends on the humidity in the air and the bud density. A humidity ranging from 45% to 55% is good for the plants, ensuring they grow well. However, if the humidity rises above 55%, there is a risk of mildew and when it lowers below 45%, the plant dries rapidly. When the plant dries rapidly, the chlorophyll that was supposed to convert to another chemical fails to do so and the product is of poor quality. The product ends up being of sub-standard quality and does not appeal to the users who smoke it. Therefore, humidity and temperature is important when the plant is drying. During the drying process, some cultivators hang the flowers by their stalk, which preserves the internal fluid of the plant to stay in the flowers. The cultivators get rid of the roots during drying and the plant indicates that it is ready to start the process of curing when the stems at the center of the bud can be broken easily.

Many cultivators underestimate the risks involved during the process of drying, as the plant is harvested already and ready to be used. However, the real risk of emitting odor lies during the process of drying as the plant emits a strong odor. Many cultivators who grow the plant indoors consider this process as a difficult task as the odor sometimes affects the cultivators who cut and dry the crop.

**Curing:**

This is the last stage in the manufacture of Cannabis. Basically, this process develops the taste of the plant so that it ensures a smooth taste when people smoke it. The curing process helps break down the sugars of the plant, thus optimizing the taste. Once this is done, the product is packed into tight glass jars. However, the cultivator needs to re-check the product every few hours to make sure that the product hasn’t developed any moisture in it. Therefore, after the cultivator is sure that the product is good and dry, they seal the jars and open it once in a week. The process of curing varies among different cultivators and can take up to two weeks. However, some people prolong the process up to 6 months and some people may not indulge in the curing process at all.

The method described above is usually the standard process of curing but nowadays, a newly developed method called water curing has come into effect. Some people prefer this method as is fed into the plants until it is harvested and water usually removes chemicals, proteins, resins and pigments. In addition to that, it also increases the THC level of the plant. However, some people prefer the usual process of curing and stick to it.

**Cannabis plant’s uses:**

Cannabis, a well known plant is known for its many uses. It’s probably one of the most used plants in the entire world that is used for a variety of commercial, personal and medicinal uses. As cannabis is known to have existed before Christ, it is used for various purposes and has been traced back to thousands of years. Many products are made using cannabis.

Products like medicine, paper, rope, fuel, plastics, lace, soap and a lot more are made using cannabis. In addition, it is also used in making paints, sealants, fiber, bricks and lubricants. The plant is known to be used for more than a whopping 50,000 products! Many people have also survived solely by consuming hemp seeds that are cooked into “gruel”.

Marijuana is used for medicinal purposes too. Cannabis, when grown to produce fiber is known as hemp. The fiber is used to manufacture ropes, fabrics, paper and fiberboards. Industrialists grow Cannabis in huge quantities to produce fiber. Moreover, Cannabis is also used as a recreational drug. Other extracts derived from the plant include hashish and hash oil. Utilizing the advantages of Cannabis depends on people, as it can be used for good and bad purposes. Some people tend to go overboard and usually end up with disastrous results, but in reality, Cannabis is a wonderful drug used to cure diseases.

Cannabinoids derived from the plant are known to treat many cases of nausea and vomiting in people. The cannabinoids are used in drugs such as antiemetics and analgesics. Scientists have researched the various uses of the drug and thus confirmed that the Cannabis plant is indeed helpful if used in a responsible way. Cannabis is also used in sleeping medicines for people who have trouble falling asleep.

Commercial uses of the plant:

**HEMP:**

Hemp is a high growing variety of the Cannabis plant used for a variety of commercial purposes. A variety of products like paper, textiles, fuel, oil etc is produced by refining Hemp.

**Paper:**

Paper used for books, newspapers, maps, notes was derived from hemp until 1883. The Chinese, who realized the importance and usefulness of hemp, started using hemp paper a long time ago. In addition, the Europeans have also used the hemp paper for various purposes. The best part of hemp is that it produces a lot more fiber than wood and doesn’t require any harmful chemicals to produce paper. It doesn’t even require chlorine for bleaching and actually is better than the best form of wood pulp paper.

**Food:**

Hemp seeds, derived from hemp are extremely nutritious and very ease to produce. Many people in ancient ages have survived solely on hemp seeds, as it was their staple crop. What more, the seeds contain a high amount of fatty acids that is more than any plant in the world. People have consumed the hemp seeds by grinding it into food, making it into a porridge, or also called gruel. They also mix it into the dough while baking bread or cakes. The hemp seed is a complete resource of food and can be used for a variety of purposes. In addition, hemp seeds reduce cholesterol when consumed. However, many countries ban the consumption of hemp seeds, as it is illegal. In some countries, it is readily available and people use it to even feed birds.

**Plastics and Construction material:**

Plastics used for making pipes can be derived from hemp. It is also used in plumbing. The best part is that the plastic-making process doesn’t harm the atmosphere.

Hemp replaces materials made out of wood as it can be pressed easily. In addition, it is pressed to take various forms and sizes. Therefore, it is used to make furniture. It is stronger and much more durable than timber. It is also inexpensive compared to timber and useful to the environment. The French use hemp to produce materials used for construction. They use a method called Isochanvre to produce building material from hemp. The hemp sets hard and can be used for construction. Amazingly, archaeologists have discovered a bridge in France which is more than 1200 years old built using Isochanvre. Apart from all this, many people construct houses using bricks made out of hemp.

**Cannabis Biomass:**

Biomass is a material derived from living organisms. However, it often refers to plants. Usually, biomass is used for the conversion of fuel through a process called “gasification”. Biomass is produced biologically through plants. Biomass is usually used to produce various sorts of energy. It is stated that more than 140 billion tons of biomass is produced every year.

The conversion of many plant products can result in harmful waste products. However, cannabis biomass doesn’t produce any waste products that are harmful. According to the biomass equation produced by the FCDA, cannabis biomass is the most systematic, inexpensive and reliable method to produce energy

**Textiles:**

Among the many uses of hemp, it is used to produce textiles used to make clothes, towels, socks etc. In addition, hemp is also used to make ropes, nets and boat sails. Interesting, the famous Jeans brand “Levi” produced jeans made out of cannabis fiber. Research and studies reveal that hemp is known as the most used, standard fiber in the world. Hemp competes with cotton in the clothes-production area and hemp fibers produce soft, durable clothes which are better than cotton. Cotton actually requires a huge amount of pesticides and fertilizers for its growth and hemp comparatively, doesn’t need a lot.

**Paints and Varnishes:**

Oil derived from the hemp seeds are used for various purposes too. Artists like Van Gogh and Rembrandt have used hemp seed oil to produce some of the greatest works of art. What more, hemp seed oil can be used just like any other oil. It emits less soot compared to other oils and is also used as lubricants.

Medicinal uses of the plant:

**CINV:**

Scientists have stated that Cannabis is effective to avoid nausea and vomiting induced during chemotherapy. This particular effect is called CINV also known as chemotherapy induced nausea and vomiting. It is reported that people who have found treatment for CINV can resort to cannabis. In addition, cannabinoids derived from the plant are known to be more effective than many antiemetics. However, the treatment has to be administered with caution as it can cause a few side effects. The patient can experience hallucinations accompanied with dizziness and dysphoria. In addition, it can also be harmful if a patient continues to use cannabis for a long time as it as induce a syndrome called ascannabinoid hyperemesis syndrome.

Reviews and journals have stated that cannabis can be effective for children who are treated with chemotherapy to avoid nausea and vomiting, but then again, the side effects are something to worry about. It induces more than effects in children than it would with adults. Some effects include dizziness, hallucinations, dry mouth accompanied with a lightheadedness and hypotension.

**HIV/AIDS:**

Though some scientists claim that cannabis in effective in curing AIDS, it isn’t proved yet. Many people argue the research made by scientists as they don’t have evidence to back their claims.

**Chronic Pain:**

Studies state that cannabis is effective in curing chronic pain induced by neuropathy, fibromyalgia and rheumatoid arthritis. However, there are no studies to back that up either. The treatment of chronic pain using cannabis maybe has more side effects according to a few reviews.

**Cancer:**

Tests have shown that cannabinoids have the potential to cure breast and lung cancer. Apparently, the cannabinoids have the capacity to affect cancer cells. There has been a wide amount of research to find out if the claims are true. However, some scientists claim that the reports claiming treatment of cancer from Cannabis is untrue and misleading. They also state that though the cannabinoids don’t cure cancer, the risks of increasing the effects of cancer is high as many people smoke Cannabis mixing it with cigarettes.

**Alzheimer and Diabetes**

Studies have suggested that the Cannabis plant has the ability to reduce the effects of Alzheimer disease. The cannabinoids are stated to have the ability to induce effects on brain ageing. However, reports say that it lacks evidence and is inconclusive. A review in 2009 stated that a test of cannabinoids on the treatment of dementia displayed poor results.

Scientists have also tested the effects of cannabinoids on patients with diabetes. They claim that it might reduce cell damage in diabetic patients, but again, it lacks evidence.

**Tourette syndrome**

A review in 2000 claimed that the effects of cannabinoids were tested on patients with Tourette syndrome. But, the cannabinoids didn’t display any changes in ticks and actually increased the inner tension in patients. However, a review in 2005 claimed that the cannabinoids displayed positive results without any serious side effects on patients with Tourette syndrome. The effects of cannabinoids were tested on 28 patients and reports claim that the though the patients displayed improvement in ticks, it was very minute. Therefore, they don’t have any evidence to prove that cannabinoids actually help people to cure Tourette syndrome.

**Chapter Two: The Federal Government, The State Government and Prison System**

When it comes to the legality of cannabis, there is a very wide gap between the Federal Government and the State Government. As far as the Federal Government is concerned, Marijuana is an illicit drug with no medicinal properties whatsoever. The Feds stand by their classification despite the overwhelming amount of clinical studies and patient testimonies that state otherwise. And while the Federal Government may consider itself to have the final say in matters concerning Cannabis, many states have decided that they should determine whether their citizens should be able to use the herb for its medicinal qualities. In 1996, California became the first state to allow adults to choose Marijuana as a prescribed drug. Since those early pioneering days, there are now, at the time of this writing, twenty states which support Cannabis as a drug. Also of an interesting note is that the District of Columbia, home to the federal government that says Cannabis is bad for you, also has medical Marijuana laws.

Each state that has passed a medical marijuana act into law has done so as an act of compassion with some states even using the term “compassion” in the title of the law. However, each state handles medical cannabis differently. For instance, most states that allow for the use of medical marijuana, will issue a patient an id card stating that the patient has been legally prescribed the herb for medicinal purposes, meaning they are able to possess and use the herb. Some states take the compassion law a step further and allow cardholders from other states access to their medical marijuana program, such as Rhode Island. And if is taken into account that Rhode Island’s adoption of medical marijuana was based on compassion, it would only make sense that someone in need of medical attention would not be turned away, simply because they don’t reside in the state of Rhode Island. It is the state’s stance that this act of turning patients away would be inhumane and the exact opposite of what the law is intended to do, which is to show compassion to patients.

The states, once they have adopted medical cannabis as an alternative treatment, must set limits on the amount of medicine that a cardholder can possess at any one point in time. These decisions are made to keep the medicine out of the hands of those who abuse the drug. When these same governments decided how to control other medicines at other points in history, Pharmacies sprang up as a way to control and regulate medicines which have the potential to be harmful and doctors prescribed correct dosages to handle the medical condition. Since the legalization of medical marijuana, the drug has had its fair share of regulation and each state has decided what those limits should be. For example, in the state of California, patients are able to possess up to eight ounces of the medicine, while in Nevada a patient is only allowed up to one ounce of medical marijuana.

Another difference between how each of the states handle their medical marijuana programs are the variety of prerequisite conditions or ailments that a person must have in order to be prescribed the medication. For instance, the state of Hawaii allows for the drug to be prescribed to patients suffering from chronic pain, while another state may only allow use of cannabis for terminal patients who are beyond the hope of traditional medicine. Not to mention other differences, like the fact that there are some states which allow same day access to the drug, while other states may require several doctor visits over a period of time before a patient can be prescribed medical cannabis.

All the while that these states are making laws, regulating and taxing, focusing on medical cannabis as a viable natural treatment option for patients in their states, the Federal Government’s Departments of Justice, DOJ, lurks in the background. Using federal statutes, the DOJ is unwilling to let the citizens of the states, which voted for medical marijuana, use the herb in peace. Nearly all of the twenty states have seen its state sanctioned program disrupted by the federal government. These disruptions have been caused by either, the state laws being challenged in federal court or raids by the local Drug Enforcement Agency, or DEA, of private businesses which dispense the state legalized medical marijuana to qualified patients. These lawsuits wind up costing the taxpayers of these states hundreds of thousands of dollars, while the raids are costing private entrepreneurs their businesses, stock and operational equipment, as well as any cash that the business owner may have on hand. If the DEA were to raid the local Walgreens, confiscating all the medicine and supplies inside a single store, the monetary loss would be insignificant to a big chain, like Walgreens. But, an overwhelming number of dispensaries are small business owners and a DEA raid is a huge monetary loss that cannot be recouped. In the greater majority of these cases involving DEA raids, no one is even arrested for breaking federal law. It is just a smash and grab tactic that the DEA uses which leaves the victims without any sort of legal way to address their grievance.

*A Tale of Two States*

In spite of all of the federal government’s resistance to accept state legal social change, there are two brave states which decided to push the envelope even further. A grass roots operation started by supporters of the pro-marijuana movement in the state of Washington took to the state legislature a petition asking that the voters be allowed to choose to partake in recreational marijuana. Not to be outdone by another state, Colorado citizens also took their state legislation a petition demanding that citizens of Colorado be allowed to decide if they could use the herb for recreational use. After several years of attempting to get on the ballot for a vote, both states pro-marijuana supporters finally got their vote in the 2012 election cycle and weed was the word on the street.

Once both states announced that the voters would get to decide, the propaganda began to flow towards the voters as both pro-marijuana and anti-marijuana groups clashed with advertisements and political speeches. However in the end, the voters used common sense, sorted through the propaganda, and voted to allow for the use of recreational cannabis in their states. Though the laws are worded differently between Washington and Colorado, both states made history in 2012 and set the nation talking, with Americans asking; which state will be the next to embrace recreational marijuana? Though, the harder question remained. How would the Feds respond to this slap in the face?

Well, it didn't take the federal government too long to decide what course of action to take. With the current Secretary of Justice, Eric Holder, sending out a department wide memo stating that as long as the citizens of these states were acting in accordance of their local and state laws, then the federal government would not interfere with the citizens. However, it would seem that some employees of the DOJ didn't receive the memo as raids are still being conducted against state legal marijuana providers.

This is not to say that all is lost as far as the federal government is concerned as some members of congress wish to change the classification of marijuana from an illicit drug to a medicinal one. House of Representatives member Jared Polis of Colorado has introduced a bill that would legalize the drug across the United States, while some members of congress want to allow the states to decide for themselves, whether or not, to allow the use of cannabis. And while the wheels of Washington, DC do turn slowly, it will only be a matter of time before the federal prohibition of marijuana ends. The current and past two Presidents of the U.S., have openly admitted to the occasional use of marijuana, proving that the pro-marijuana stance for a politician is no longer a political death sentence.

*The Pot to Prison Plan*

The one thing that must be mentioned when it comes to marijuana is the abuse of pot smokers by the prison systems. Most law enforcement agents see those who smoke pot as an easy target to bust and send to jail. While the pot smoker is in jail, the jail is making money off of the housing of this person who has done nothing except use a plant that grows naturally in the wild. There is big money to be made in the prison industry and pot smokers are used like a commodity.

The United States spends, according to congressional reports, 20 Billion dollars a year on pot prohibition. This money, which is being furnished by the tax payer’s wallets, is used to fund the court system and in turn used to fund the private prisons in each state. An end to the prohibition would give the U.S. Economy a 20 billion dollar jolt every year. This is not to mention all the benefits of legalizing the drug.

In the state of Colorado, the legal marijuana industry brings in so much money to the state, that Colorado has its own IRS division committed to nothing but processing the sale and distribution of the herb. In fact, this alone proves that the drug has the potential to be more profitable for the US economy than the prison system, which is probably why there are entire organizations funded by the security guards of these prisons to continue and further the war against this natural medicine. In essence, when it comes to politics and pot, money is the driving force.

**Chapter Three: The Truths and Myths about Marijuana**

As Cannabis contains tetrahyrdocannabinol, also known as THC, which is a psychoactive element, it is illegal in many countries. However, many people smoke Marijuana illegally. Though the plant has many properties that cure many diseases, it is banned and made illegal. The plant can also be consumed as food as hemp seeds provide immense nutrition. This could reduce starvation among many people, but the plant is infamous in many countries. Many people fail to understand why Cannabis is banned as it can help millions of people. It is used not only in medicines and in food, but also used for more than 50,000 commercial products.

Though Cannabis is not as harmful as drugs, it is banned. In addition, Cannabis is not even as harmful as tobacco and alcohol, but interestingly tobacco and alcohol is not banned. A huge number of people are arrested on a daily basis because of the possession of Marijuana. However, many people all over the world think that the law, which states that the possession of Marijuana is illegal, is unnecessary.

Here are few myths and facts associated with the Cannabis plant.

1. **Myth**: People who consume Marijuana eventually start using other drugs.

**Fact**: People smoke Marijuana or consume it in other ways don’t necessarily get addicted to other drugs.

Many people believe that users who consume or smoke Marijuana eventually get addicted to other drugs like cocaine and heroin, but this is definitely a myth. Marijuana doesn’t induce people to consume other hard drugs. Although it’s the most illegal and most popular drug used in the United States of America, many other people also use heroin and cocaine. People who consume heroin and cocaine would have used Marijuana at some point, but people who use Marijuana haven’t shifted to cocaine and heroin necessarily. Many people call marijuana as a gateway drug, but it isn’t true as many people who use Marijuana don’t shift to other drugs and get addicted. It is in fact a terminus to many people.

1. **Myth**: Most people who consume Marijuana are hard-core users and get addicted to it.

**Fact**: Many people who consume or smoke Marijuana do it only occasionally.

A lot of research has been conducted among the users of Marijuana to prove this fact. Many people assume that people who use Marijuana show clinical dependence but studies claim otherwise. Less than 10% of people who use Marijuana show clinical dependence. In fact, people who use tobacco and consume alcohol display more clinical dependencies than people who sue Marijuana. Federal data research shows that admissions of people for Marijuana treatment increased from 48% to 58% from 1992 to 2006. Out of that, less than 45% of people met the criteria for mental disorders because of Marijuana. Out of those people, many people hadn’t even used Marijuana in the past 30 days.

1. **Myth**: The potency of Marijuana has increased vastly over the years.

**Fact**: There is no evidence to state that the potency of Marijuana has increased over the years. Moreover, the risk dependencies are not related to the potency of Marijuana.

Though it is true that the potency of Marijuana has increased to a certain extent over the years, it is untrue to state that the potency has increased vastly. There is no evidence to back this claim. In addition, the potency of Marijuana is not even related to dependency risks. Also, it is not related to the health impacts. Reports from the federal government state that the THC potency (psychoactive chemical) in Marijuana grown domestically is less than a meager 5%. Most of the Marijuana sold in the market is grown domestically. The figure of 5% hasn’t even increased in the last 10 years and continues to be the same. However, it was lesser than 3% in the 1980s. The potency of THC doesn’t matter as it is not poisonous to humans and doesn’t induce an overdose. This is a well known fact as doctors prescribe Marinol, which has a whopping 100% THC potency. The drug is legal and approved by FDA, as known as the Food and Drug Administration. The FDA states that Marinol that contains 100% THC is safe to use and displays effects to treat bouts of nausea and vomiting.

1. **Myth**: Marijuana causes mental illness

**Fact**: There is no evidence to prove that Marijuana cause mental illness in people. It is a very false claim.

Though people who consume Marijuana sometimes experience feelings of inner tension, panic, paranoia and anxiety, they are very temporary, there is no proof that this is related to mental illness. Marijuana does not cause mental illness in people though it induces temporary side effects. In fact, many people use Marijuana to fight with depression and distress. Studies have shown that the Cannabis plant actually helps people to combat various mental ailments instead of being the cause of the ailment. Although the drug induces panic and paranoia in some people, many people also find the drug to be calming and effective.

1. **Myth**: Marijuana induces and increases Cancer.

**Fact**: Marijuana doesn’t induce Cancer in people.

Fact is, cannabinoids in Marijuana are known to cure breast and lung cancer to an extent. People assume that Marijuana induces cancer as it is consumed, mixed with cigarettes. Studies have shown that though people use Marijuana for a long time, it doesn’t increase the risks of cancer, whether it is lung, cervix, breast or prostate cancer. In fact, a study in 2009 states that people who use Marijuana moderately have shown effect of reduction in head and neck cancer. The study states that it reduces the risk of head and neck cancer even in people who use Marijuana moderately for the past 20 years. Other studies also state that Marijuana is not correlated to cancer.

1. **Myth**: Marijuana doesn’t help to treat symptoms of medical conditions.

**Fact**: Marijuana actually has been proven to be helpful to treat symptoms of many medical conditions.

Marijuana has been proven to treat symptoms induced in patients going through chemotherapy, HIV/AIDS etc. Cannbinoids are known to reduce effects of nausea and vomiting induced by chemotherapy in patients. In addition, cannabinoids are known to be effective for patients suffering from diabetes, glaucoma, Tourette syndrome, arthritis, asthma etc. Also, reports with evidence state that Marijuana help to reduce spasticity of muscles in patients suffering from neurological disorders. Other capsules have been invented to combat muscle spasticity in patients, but it is nearly not as effective as smoking Marijuana.

1. **Myth**: Use rates of Marijuana are different in Netherlands.

**Fact**: Use rates of Marijuana in Netherlands are similar to the U.S though the policies are different

The policy of Netherlands is very non-disciplinary in entire Europe. A large number of people, aged above 18 years in Netherlands, buy and consume Marijuana and have been doing it from a very long time. Marijuana use is permitted there and many people use Marijuana after buying it from shops that are regulated by the government. However, this doesn’t mean that the usage of Marijuana is extreme in Netherlands. The policies for many age groups are similar to the US policy, but for young people, Marijuana use rate remains lesser than that of the US. The Dutch government has decriminalized Marijuana and stand by it though they revise the policies a bit every now and then.

1. **Myth**: Marijuana causes long-term memory loss

**Fact**: Marijuana doesn’t cause long-term memory loss

Granted that there are a few side effects when people smoke or consume Marijuana in any fashion and the side effects include thought changes and slow processing of thoughts, but these side effects are temporary. This doesn’t mean in any way that Marijuana causes long-term memory loss. Most people experience a short-term memory loss but then again, it is temporary. There has been a lot of research to find evidence related to this fact. Experiments show that people who smoke Marijuana have had no problems remembering anything they learnt previously, but however, they their ability to process new information reduces considerably. Though their ability to recall any new information reduces, the effects are temporary and exist only during the period of intoxication. The myth that states that people who use Marijuana for a long time experience long-term memory loss is untrue and there is no evidence to back up that claim.

1. **Myth**: Marijuana contributes to fatal accidents and casualties.

**Fact**: There is no evidence to prove that Marijuana contributes to fatal accidents and casualties.

As stated earlier, people who use Marijuana experience minor side effects that are temporary. It also contributes to people processing information slowly, but it is only during the period of intoxication. This however, doesn’t contribute to a person’s driving ability or decision making. In fact, studies show that Marijuana doesn’t affect a person’s driving ability, and if it does, it is lesser than alcohol or any other medications consumed by the person. It actually acts in contrast to alcohol. Alcohol impairs a person’s decision-making process while driving, but Marijuana makes a person cautious while driving. A lot of experiments and surveys have been conducted in this regard and it shows that when THC is detected in a person injured by accident, alcohol has also been detected. The rate of accidents has not been accident by Marijuana use.

1. **Myth**: Banning Marijuana helps kids.

**Fact**: Banning Marijuana doesn’t protect kids.

In fact, more kids have started using Marijuana nowadays. In 2011, a survey reported that there has been a whopping 30% hike in kids using Marijuana. Maybe this is the case of the forbidden fruit. Many kids have reported that they smoke more Marijuana than smoking cigarettes with tobacco. It is reported that one of out of every 15 kids smoke Marijuana. Banning Marijuana doesn’t matter as kids in banned states don’t really smoke less compared to those in other states where smoking Marijuana is legal. Legal advocates state that it is better to legalize Marijuana.

1. **Myth**: The Dutch Government has legalized Marijuana.

**Fact**: The Dutch Government has not legalized Marijuana.

Though it was stated above that the Dutch Government has decriminalized Marijuana, it doesn’t necessarily mean that they have legalized Marijuana. They have policies of not enforcing the existing laws and that has happened since 1976. They don’t enforce the laws present on people with small amounts of possession. The same goes to people selling small amounts too. The Dutch Government has never formally issued statements of legalizing Marijuana. Growing Marijuana, selling and distributing it is a crime in Netherlands. People who use and sell Marijuana in large amounts are liable to be arrested and punished.

1. **Myth**: Prisons are full of people arrested for using Marijuana.

**Fact**: Prisons have many other prisoners arrested for other activities and not only Marijuana possession.

Though many people are arrested for Marijuana possession every day in the US, it depends on every state as to what happens next. Statistics state that about 750000 people use Marijuana and are arrested every year in the US alone. However, this doesn’t mean that everyone who is arrested lands up in jail. Many people who are arrested for possession with small amounts are not prosecuted. There are different types of punishment and it can also lead to a fine or serving in the community service. Most of the people arrested are not for possession alone, but also for selling and distributing Marijuana too.

1. **Myth**: People who use Marijuana eventually become criminals.

**Fact**: There is evidence to back this claim.

Though people who commit crimes would have used Marijuana, it doesn’t mean that everyone who smokes Marijuana eventually commit crimes. It is possible that criminals use drugs usually, whether it is cocaine, heroin or Marijuana, but Marijuana usage doesn’t force a person to commit crimes. Few drugs force people to be aggressive. Alcohol for instance, makes a person violent, but Marijuana on the other hand, doesn’t make a person violent.

1. **Myth**: Using Marijuana is not harmless at all.

**Fact**: Smoking Marijuana for a long time can be harmful.

As some people smoke Marijuana just the way they smoke cigarettes, they are liable to suffer from bronchitis or other respiratory ailments. However, smoking is not the only way to use Marijuana and it can consumed in other ways. Heavy usage of Marijuana from a long time can be harmful and effect people. But then again, too much of anything is harmful.

1. **Myth**: Marijuana is extremely dangerous

**Fact**: Marijuana is not dangerous, compared to other drugs.

Studies have shown that Marijuana, if used in small amounts can be helpful in contrast to being dangerous. It is less dangerous compared to heroin, cocaine, alcohol and tobacco. Marijuana has many medicinal properties too and if used in a good way, it is not harmful.

**Chapter Four: Alcohol vs. Cannabis**

Marijuana, over the years, has faced a lot of negativity because of many misconceptions. Even though many scientists have repeatedly proven that the Cannabis plant is not as dangerous as it seems to be, many people don’t believe that. Time and again, scientists have stated that Marijuana has helped to cure medical ailments, but many countries don’t seem to consider that fact. Marijuana is illegal in many countries including the United States of America.

Many people go overboard to even assume that only people who lack energy to work would smoke Marijuana. Our ancestors have used marijuana for many purposes from a very long time, but people ignore its advantages. The Cannabis can be used for more than 50,000 products including fuel and can also serve as food to many people. With starvation rife in many nations, it is only logical to legalize Marijuana.

Marijuana is not as harmful as other drugs like cocaine and heroin. It is less harmful compared to even alcohol and tobacco. As many people smoke Marijuana just like they would smoke a cigarette, it is automatically assumed that Marijuana causes cancer. However, that’s not true. In fact, studies have shown that cannabinoids derived from Cannabis helps to cure cancer to a certain extent. However, Marijuana is not completely harmless. Long-term use can be harmful.

The problem lies in the fact that most people don’t understand the advantages of Marijuana or probably don’t care to understand. That kind of ignorance always leads to them assuming the worst. Some people also assume that using Marijuana is bad and think that people who use Marijuana are bound to commit crimes. The most common misconception among people is to assume that others who use Marijuana are criminals, which is again untrue. Another misconception is that people who use Marijuana are high all the time, leaving them unable to perform daily activities. With so many myths surrounding the Cannabis plant, it is sad that the world can’t take advantage of the plant’s various uses.

Many people use Marijuana just like they would use alcohol. In fact, alcohol is more dangerous than Marijuana. They would probably use it to relax a little; maybe enjoy an evening or before they go to a concert. Many musicians have admitted to smoking Marijuana just before they play and they also play very well which proves that smoking Marijuana doesn’t cause a person to become lazy. The fact is that though alcohol is more dangerous, people still believe that Marijuana is extremely dangerous. They wouldn’t have problems with people consuming alcohol, but stay away from people who consume Marijuana.

Drinking alcohol or smoking Marijuana could be bad or good depending on a person’s point of view. Common assumption is that Marijuana works as a gateway drug, forcing a person to take up other drugs and becoming addictive, but that’s not true either. Alcohol, which is more dangerous, makes a person addicted to it, thereby destroying his/her life.

Alcohol is probably the biggest competition for Marijuana in the recreational world.

Quite simply put, many people would have experienced a “high” at least once in their lives. That could be from either alcohol or Marijuana. In fact, many people get embarrassed about it, but there is nothing to hide or experience embarrassment. Many scientists and experts say that human beings possess a drive to change their consciousness deliberately by using different forms of intoxication. In addition, experts say that it is a part of a psychological reaction, as much as a survival instinct.

**Cannabis vs. Alcohol**

Intoxication has existed in the history of humankind from a long time. Ancient ages have used different forms of intoxicating substances, whether its alcohol or Marijuana. It is a universal theme and has continued from ages. Every culture in history has used psychoactive substances and will continue to use it. Just like the basic requirements human beings need, intoxication has become a need too. Every human feels hunger and thirst, just like he would feel a need for intoxication.

Many researchers have researched about alcohol, just like researches made about Marijuana. Some researchers state that barley was harvested in the early 8000 B.C. In addition, fruit juices (later used as wine) and barley (beer) were among the top choices of beverages to many people. These different forms of intoxication were discovered so long ago that one can’t be certain about when exactly they were discovered.

Just like alcohol, it is difficult to trace the exact origin of Marijuana. Marijuana, also known as weed, pot, ganja etc, could have originated from China, Europe or Egypt. Evidence of Marijuana usage has dated back to 7000B.C. Traces of Marijuana has also been found in Egyptian mummies. Recently, more than two pounds of Marijuana was discovered in a grave that was 2700 years old in China. They stated that the ancients used to consume Marijuana for medicinal as well as recreational purposes.

Nowadays, a wide number of people use alcohol or Marijuana, depending on their taste. In fact, hundreds of millions of people consume alcohol, Marijuana, or both. The World Health Organization, also known as WHO has conducted research regarding this and the results are staggering. According to WHO, about 90% of Americans consume Alcohol and 45% consume Marijuana. Next comes the New Zealand, where about 42% has consumed Marijuana and a staggering 95% consume alcohol. Ukraine seems to be the highest among all the European nations, with a 97% consumption of alcohol. However, Marijuana consumption also seems to be low in Ukraine, with only 6.5% of consumption. Netherlands, where many people assume that Marijuana is consumption is high, comes only with 20% of Marijuana consumption and a whopping 93% of alcohol consumption. Although France and Germany has strict rules regarding Marijuana, the stats are similar to that of other European nations.

Coming to Israel, about 58% of people have consumed alcohol and Marijuana consumption is about 12%. In Mexico, alcohol consumption is about 86% and Marijuana consumption is about 8%. In South Africa, about 40% of people consumed alcohol and only 10% consume Marijuana. Interestingly, the stats reveal that the highest consumption of Marijuana comes from the United States of America, where Marijuana consumption is prohibited and penalized immediately.

According to the reports, and according to the data collected from 2007, about 66% of people, i.e. about 163 million people, consumed alcohol during the previous year and about 127 million people consume alcohol regularly. Out of this, about 58 million people indulge in consuming an extremely high amount of alcohol, otherwise known as binge drinking. More than about 7% of people are at risk because of the extreme amount of alcohol consumption.

Comparing the amount of people who drink versus the amount of people who smoke Marijuana, we can see the difference. However, as smoking is illegal in the United States of America, it is very tough to find out the figures. But, researches have mined out that data too. The United States Abuse Mental Health Services Administration, also known as SAMHSA, show the number of people involved in smoking Marijuana through polls. According to SAMHSA about 10%, which is about 25 million Americans, smoke Marijuana every year and about 6%, i.e. about 15 million Americans admit to use Marijuana regularly. However, these figures are underestimated as smoking Marijuana is prohibited in the United States of America. SAMHSA states that these figures are underestimated too.

Marijuana is as popular as alcohol among the masses. Not only adults, but also children above 12 years have also been reported to smoke Marijuana. At that age, anything is harmful, whether it’s Marijuana or alcohol. Reports suggest that about 40 to 50 percent of kids smoke Marijuana during school. This figure has remained stable since the 1970s and hasn’t changed at all.

Looking at both Alcohol and Marijuana from an economical point of view, both are making billions of dollars in the market. Although alcohol is legal, sold out in the open and Marijuana is prohibited, both are extremely profitable. According to a report in 2006, Americans nearly spent a whopping 130 billion dollars on alcohol alone. Obviously, alcohol is a multi-billion dollar industry that rakes a lot of money. Apart from that, people running the alcohol business also place advertisements on television to woo the public. Advertisements makes them spend a lot of money, but it’s peanuts compared to the amount of profit they make.

In contrast, obviously since Marijuana is illegal, one can’t place advertisements in papers or television. However, it isn’t possible to write off Marijuana just yet. Illegal or not, people consume Marijuana as shown in the stats. Cultivators grow Marijuana both indoors and outdoors and make a huge sum of money as profit. Experts related to this field estimate that about 113 billion dollars are spent in the Marijuana market every year. Just a look at the overwhelming stats proves that alcohol and Marijuana compete against each other, thus being rivals. As on today, marijuana is the biggest retail crop of the United States of America, beating many other crops.

Marijuana business is growing rapidly in many countries all over the world, but is the highest in the United States of America, though it’s prohibited. As cultivators understand the growing need, they grow more domestically and the overall estimated cultivation is more than about ten thousand metric tons every year, which makes it about twenty-two thousand pounds. Experts believe that this is probably ten times more than what was being produced in the 1980s.

Considering all the reports and stats, it is easy to determine that both alcohol and marijuana is widely used in the United States of America. Not only U.S, but it is widely used everywhere in the world. The only question being asked is simple. Although both are widely used, why are they treated different? Why is marijuana surrounded with so many misconceptions? Repeatedly, it’s proven that marijuana is safer than alcohol. So why do people consume more alcohol than marijuana? And moreover, why are both the intoxicating substances displayed in different ways to the public?

While alcohol is advertised all over, why is marijuana shown in poor light? In fact, people are seen celebrating with alcohol and it is displayed as if it’s the best thing that happened to mankind. Alcohol is also highlighted in a great manner by the media. It is no wonder that everybody consumes alcohol since it’s shown in a positive manner. Alcohol is also presented as gifts to many people. Whether it’s a game or a celebration during Christmas, people consume alcohol. Apart from all that, people consume alcohol at all times, if they are depressed, happy or just idle.

Alcohol is like a social icon as colleagues get together for a drink or people celebrate a wedding by consuming alcohol. The much awaited “toasting” by the bride and the groom ends up with people celebrating and consuming alcohol. More than anything, alcohol prevails as a celebration among people. The fact is that since alcohol is portrayed in great light, nobody thinks about the negative aspects of the intoxicating substance. Most of the accidents happen when the driver is intoxicated with alcohol, yet marijuana suffers the blame because of many misconceptions. Out of all the accidents that take place with the driver being tested for intoxicating substances, alcohol is usually present. Yet, misconceptions and myths of marijuana as a factor of road accidents make the rounds.

Since alcohol is advertized in a good manner by many advertisers, it is accepted in the society. Most people don’t care about its side effects on the body and carry on with their lives. Alcohol has existed in the culture and tradition from a long time and people think that they are just carrying the tradition forward. Advertisers go so far as to say that alcohol reduces stress during long days of work.

Obviously, none of the advertisements on television states the negative effects of alcohol. Negative effects can include anything ranging from a bad hangover to a bad liver. Interestingly, nobody realizes the effects of alcohol in a bar where fights break out or even in a stadium where sometimes the game can end in a disastrous manner due to alcohol. Many sit-coms have also been aired as light hearted comedies to show the effects of alcohol, but sadly alcohol is still shown as a means of celebration.

Most of the advertisements show glamorous models and sportspersons portraying alcohol as a social status. It has gone so far that people are usually shocked if someone doesn’t consume alcohol. In parties, people who don’t drink alcohol are usually outcast. Because of the rampant advertisements and hype, alcohol has become a social icon.

Since the alcohol industry acts a major sponsor to many sporting events, it is hyped to a great extent. As the industry makes billions of dollars every year, they can afford to spend on any event they choose. Moreover, on special occasions like New years eve and Christmas, alcohol is served free in many places. Sadly, many kids who are under the legal age of drinking also consume alcohol unabashedly.

Comparing a few facts as to why marijuana is better than alcohol:

1. The number of people who die from alcohol is more than those who die because of marijuana consumption. The Centers of Disease Control and Prevention, also known as CDC in the United States of America maintains records of the number of people who consume alcohol. The records state that at least 38,000 people die due to extreme use of alcohol. In contrast, people who die from marijuana use are nil or extremely rare and that’s the reason as to why CDC doesn’t even maintain records of people who die from marijuana consumption.
2. Alcohol overdose is fatal. On the other hand, people don’t die from marijuana overdose. Many scientists have researched in this area and studies suggest that alcohol can be lethal if a person consumes only ten times more than what’s required. It is considered as one of the most poisonous drug among all the intoxicating substances and every year, many people die because of an alcohol overdose. In contrast, marijuana is considered as the least poisonous among all the intoxicating substances. According to studies and reports, people who die from marijuana overdose are nil or very minimal compared to people who die from alcohol overdose. This is because a person would need to consume about thousand times more than what’s required achieve overdose. However, the number 1000 might just be estimated, as records of people who died because of marijuana overdose haven’t been found.
3. Health costs associated with alcohol are more than the health costs of marijuana. Since many people consume alcohol neglecting the negative side effects, it is obvious that they spend a lot on their medical care. Though many people consume both alcohol and marijuana, people spend more on their alcohol related costs compared to marijuana. Precisely, a user sends about 165 dollars on his/her personal health due to alcohol. On the other hand, a user spends about only 20 dollars for his/her personal health due to marijuana. This is obvious as alcohol is more dangerous than marijuana.
4. Medical and commercial uses of marijuana are more than alcohol. It is common knowledge that the marijuana is used for a variety of medical uses and has also been used to cure symptoms of cancer. In addition, it is a known fact that marijuana also helps with lung and brain cancer. Coming to commercial products, marijuana is used for more than fifty thousand products and can contribute a lot to the development of mankind. Therefore, marijuana is much superior to alcohol both in medical as well as commercial uses.
5. Marijuana doesn’t damage the brain when a person consumes it, but alcohol damages the brain. With so many misconceptions and myths, people tend to believe that marijuana causes brain damage, but the fact remains that cannabinoids derived from the plant actually helps to shield the brain cells from any damage. Studies prove that people who consume marijuana suffer less brain damage compared to people who consume alcohol. In contrast, alcohol induces brain damage to people.
6. Alcohol causes cancer, but marijuana doesn’t cause cancer. Another common misconception about marijuana is that it causes cancer, but time and again research has proved that cannabinoids derived from the plant cures the symptoms of various cancers. Also, it helps to reduce symptoms of nausea and vomiting induced during chemotherapy. On the other hand, alcohol causes cancer including stomach, lungs, colon and pancreas cancer. Moreover, it damages the liver and also causes liver cancer. As many people smoke marijuana rolled into a cigarette, it is an automatic assumption that marijuana causes cancer. However, smoking is not the only way to consume marijuana as it can be consumed in other ways. In addition, it can also be consumed in its liquid form. There is no evidence to back up the claim that marijuana causes cancer. In fact, research proves that marijuana actually reduces the risk of neck and brain cancer. Interestingly, studies and researches stats that people who consume marijuana have a lesser risk of cancer compared to those who don’t consume marijuana.
7. Alcohol causes more addiction in people compared to marijuana. Researchers who have researched about this topic in detail state that alcohol induces more addiction among people compared to marijuana. Quite simply put, marijuana is less addictive compared to alcohol though many people believe in the myth that marijuana induces extreme addiction. Many people also believe that marijuana serves as a gateway to many other drugs tempting them to get addicted. In contrast, alcohol serves as a bigger addiction to people, with bigger withdrawal symptoms compared to marijuana. Though marijuana is surrounded by the myth that it induces clinical dependencies in people, the fact is that alcohol induces more clinical dependencies compared to marijuana.
8. Alcohol induces more risks and violence compared to marijuana. Many people who consume alcohol, or know friends who consume alcohol understand that alcohol often induces serious injury among people. It is common to hear about barroom quarrels. In addition, people directed by alcohol also indulge in fights carelessly without bothering about their surroundings, whether it’s a stadium or a celebration at a friend’s place. Adding to all that is the risk of driving during intoxication. Researchers have proven that about a wide variety of cases are registered due to alcohol consumption. Though general misconception states that marijuana is responsible for many accidents, in contrast alcohol is the main reason for many people to lose their lives as their drive after drinking. Tests have often proved that alcohol is usually present in a person’s blood after an accident. However, taking a peek at studies related to accidents, it is evident that marijuana is not a cause for accidents among people. The major reason is because marijuana doesn’t induce risk or violent behavior, compared to alcohol. Though alcohol contributes to violence, marijuana doesn’t contribute to violence and on the other hand, marijuana makes a person calm.
9. Alcohol induces domestic abuse but marijuana doesn’t. As domestic abuse is the next step of violent behavior, many people indulge in domestic abuse because of alcohol. Many families have been destroyed and many relationships broken, because of alcohol. As marijuana doesn’t induce violet criminal behavior, there is no evidence to prove that marijuana induces bad behavior. But in contrast, many people have lost control over their lives because of their addiction to alcohol. People directed by alcohol, are known to indulge in violent crimes like rape and murder and many stats prove that fact. Though marijuana is widely used by many people, it is not a competition to alcohol when it comes to violent crimes and sexual assault.
10. As researchers have conducted major experiments related to the efficiency of marijuana against alcohol, it is proven that marijuana is safer to use compared to alcohol. As alcohol is a bigger risk inducing brain, liver, pancreas and other cancers, marijuana is definitely better than alcohol. Marijuana doesn’t induce cancer but helps to cure many symptoms related to it. Studies have proven that marijuana has also been a major to help cure many diseases including glaucoma, diabetes, Tourette syndrome etc. Mankind hasn’t been able to exploit all the advantages of marijuana as it is prohibited in many countries. Once the drug is legalized, many people can benefit from the plant’s medicinal and commercial uses. What more, cannabis biomass is also useful to produce fuel which will help economy in a greater way across the world. In addition to all this, marijuana, which can be consumed in many ways, will help eliminate starvation. Marijuana mixed with food is consumed as gruel and is very nutritious. The various byproducts of marijuana are very useful to produce plastics, paper and many other commercial products. Hemp seeds which are a major source to many people help to produce oil used for lighting and other purposes. In fact, it is also used to produce plastics made to manufacture laptops.

Though both marijuana and alcohol are widely recognized by many people across the world and both compete against each other, marijuana is definitely better and safer than alcohol. Constantly, many people have tried to fight for the legalization of marijuana because of its medicinal and commercial uses.

**Chapter Five: The Social Change towards Marijuana**

It is evident that the entire world has experienced numerous changes since the beginning of marijuana prohibition. It has been a struggle for many people striving to legalize marijuana. Especially, the United States of America has undergone many changes. Society has continuously adapted the different changes. Many people believed that marijuana was a dangerous drug but many other people also believed that marijuana is not as dangerous as other drugs. Now, many steps are being taken to legalize marijuana and it’s going in the right direction. Many politicians are also fighting to legalize marijuana because of its medical effects. Since marijuana is a blessing with its numerous commercial and medical properties, it is no surprise that it will help mankind. It would be a big loss to the community if the healing effects were lost only because it’s prohibited. It could also serve food to many people who starve. It looked like the legalization of marijuana was impossible, as many people were against the idea, but now that attitude seems to be changing slowly. If marijuana is legalized all over the world, it would change many things in the society with its healing effects. However, people need to consume marijuana responsibly.

After many years of wait, marijuana is heading in the right direction of maybe being legalized. It might be legalized because the society understands the numerous contributions it can make to mankind. People suffering from many illnesses including cancer as the drug might help to cure cancer. It can change the medicinal approach made by scientists all over the world. However, many people haven’t been able to accept the drug for what it is. It is feared that a large number of people might fall prey to the drug rather than being helped by it. Therefore, many people oppose the Cannabis plant even today. But, apart from being medically and commercially effective, marijuana can help the economical status of any country in a huge manner. It could produce a lot of revenue as it makes almost as much money as the alcohol industry. If marijuana is legalized, it will immediately stop potential drug dealers from harming young people. The revenue generated from legalized marijuana can help the government to use the money effectively to help citizens.

As over the years, many people have believed in many myths surrounding marijuana, legalizing marijuana has become difficult. Generally, the common misconception is about marijuana reducing people to lazy slobs after they smoke it. People also assume that marijuana serves a gateway to other drugs, thus forcing a person to become a hopeless addict. With addiction, comes violence and therefore crimes increase. In addition, it is also believed that marijuana is extremely dangerous to a person’s health, including the mind and body.

But, thanks to many politicians and other people taking a stand on marijuana, hopes of a legalized marijuana might just become true soon. The main reason is the medicinal properties of the drug and people hope that it might help the society. In fact, marijuana has more medicinal properties than most other legalized drugs used in the market. Pain killers like Morphine, Oxycontin etc are very addictive and harsh on a person’s health.

As many scientists believe that marijuana can cure cancer, cancer patients have a new ray of hope. It can also help a great deal to reduce symptoms of nausea and vomiting associated with cancer when a patient undergoes chemotherapy. People who advocate the legalization of marijuana strongly believe that many people can save their own lives instead of dying because of legal issues.

Many people can’t understand why other intoxicating substances that obviously harm a person’s health are not banned. For example, alcohol that can turn a person into a violent person is not banned and people above the drinking age limit can buy and consume it legally. Although it is proven that alcohol can induce many negative effects like damaging the liver and other organs, no steps are taken to ban it. In fact, alcohol is advertized as though it is very good for a person’s health.

Another example is tobacco. While tobacco can cause cancer and hamper a person’s health in various ways, it many people sell and buy it legally. Tobacco, just like alcohol is advertized too. Maybe both alcohol and tobacco are not banned as they produce huge revenue to the government. But, if revenue is the only reason to allow people to consume tobacco and alcohol, then marijuana isn’t far behind as it produces a lot of revenue too.

Tobacco and alcohol has destroyed the lives of many people as they can turn people into addicts. Tobacco and alcohol are both accepted socially and is a part of many people’s lives. Often, it is too late before a person realizes that he/she has become an addict. It is interesting to note that tobacco, which causes cancer, is legal, but marijuana, which has the potential to cure cancer, is illegal. This is exactly the reason as to why so many people can’t understand why marijuana is banned and struggle for the legalization of marijuana.

Apart from tobacco and alcohol, many other drugs prescribed by doctors to their patients have a high rate of addiction. It is common knowledge that many people can’t survive without sleeping pills. In addition, it forces some people into depression and also commit suicide. Marijuana doesn’t induce so many negative effects compared to all these intoxicating substances. It depends on a person as to how he/she chooses to consume marijuana. If used responsible, marijuana can be a lifesaver to many people.

As many people have now begun to understand the positive effects of marijuana, they are slowly accepting the truth. Moreover, alcohol has a high rate of accidents because it hampers a person’s decision-making capability. Also, it has the potential to make a person become extremely violent and it has been proved in many fights that break out in bars and stadiums. In addition, alcohol is the main reason for domestic abuse too. Since marijuana doesn’t induce violence and in contrast makes a person become calm, many people have begun to understand the positive effects of marijuana on their lives. Slowly, marijuana might be accepted just like tobacco and alcohol.

Though marijuana was discovered a long time ago, endeavors to make marijuana legal started only in the 1970s. Now, many states in the United States of America have different laws regarding the legalization of cannabis. While some states have totally legalized it, some states have approved marijuana use only medicinal purposes.

Many people believe that by legalizing marijuana, not only will mankind benefit because of its medicinal properties, but the government can also save large sums of money. As of now, many people are jailed, prosecuted because of marijuana possession. But if marijuana was legalized billions of dollars can be saved instead of spending it on their cases. This in turn will help the police to concentrate on other serious, violent crimes instead of arresting people using marijuana. It would definitely save a lot of money and time. In addition to that, this will reduce small pot dealers on the streets and others who sell pot by reducing their income considerably.

In fact, marijuana has been sold on the streets from a very long time. It started way back in 1619 and slowly laws restricting the sale of marijuana were placed. After that, stricter laws were enforced against marijuana usage in the 1900s and later it was prohibited. By then, marijuana was portrayed as an extremely dangerous drug and because of the general outcry, many people believed that marijuana was dangerous. Since it was prohibited, many people automatically assumed that it was an addictive drug to consume. During the 1930s marijuana was displayed as a drug and many states in the United States of America prohibited its use.

However, in the 1970s some states in the U.S.A started to end the laws prohibiting marijuana, but it was against the federal law. The Controlled Substances Act in 1970 stated that marijuana was a drug with no medical use ad possessed a high quality of abuse. In addition, it also stated that the drug was highly unsafe to be used without medical supervision. Many efforts were made to change this but it failed.

Marijuana entered the U.S pharmaceutical market early in the 1850s. After that, laws against the usage of these drugs were placed. It was labeled as a drug, which was toxic for human use. Accusations were made stating that drugs were sold as medicines, thus deceiving people. Therefore, sale or usage of those drugs without medical supervision and outside the pharmacies was prohibited. Also the labels containing the drugs had to specify the dangerous effects of the drug clearly. Minors were not allowed to use those drugs and other adults using those prescriptions could not get a refill as the law prohibited that too. Interestingly, it was known as the poison drug.

Therefore, laws regarding marijuana were placed in numerous states of the United States of America in 1905. The sale of marijuana as mentioned as the sale of poison and out of the numerous states, 8 states were under the sale of poison laws. Wisconsin and Louisiana were among the eight states, but the sale of drugs had to have a mandatory prescription. However, many states understood the medical effects of cannabis and did not consider it toxic, but those states required labeling too. This law was passed in New York too, but it happened after a few suicides. Apparently, some people had committed suicide after consuming marijuana and hence the law was passed in 1860. After that, sale of the drug had been labeled as poison in big red letters. It was later amended, but labels were required even after that.

Things changed a bit in the 1960s when many people started using marijuana. Attempts and appeals were made to lessen the punishment for people caught with marijuana possession. In addition to that, appeals were made to reduce the punishment with just a fee instead of other charges and imprisonment.

Since the attempts to legalize marijuana had already started, Oregon took the first step by decriminalizing possession of marijuana in 1973. After that, few other states like California, New York, Nebraska, North Carolina, Alaska and Ohio followed by decriminalizing marijuana up to a certain extent. However, an internal security committee stated that they had acquired evidence against marijuana owing to scientific research. By 2012, further laws were implemented that stated the use of marijuana only to people above the age of 21. In addition to that, driving under the influence of marijuana also known as DUID was prohibited. These regulations stated the same laws for which were regulated for alcohol too. In Oregon, people above 18 are allowed marijuana possession.

Thus, many states have decriminalized marijuana and have people pay fines when caught with marijuana possession. Additionally, they educate people about drugs and if necessary, treat people suffering from drug abuse instead of severe charges and imprisonment. Slowly, but surely, people have begun to understand the medicinal effects of marijuana.

**Chapter six: The smarter method - Liquid Marijuana**

As marijuana was banned and termed illegal in many countries, people started experimenting with drugs to prepare their own blends. Many people research the internet, read books and gain information about marijuana to prepare their own drug, but it is important that a person knows a lot about chemical compositions and structures before he/she experiments with something.

After a while, many psychoactive substances were discovered that were related to the cannabinoid receptors. Although these substances act as potent agonists to the cannabinoid receptors, some of them are dangerous. They bind themselves to the receptors and though their structures are similar to cannabinoids, it is not essentially true that they are safe to consume. Some of them even induce effects that are similar to cannabis, but they are only termed as synthetic cannabis.

Most of these substances are available in the form of a powder and users generally mix the powder with water to prepare a solvent. These solvents are sprinkled over any plant. After the plant dries up, they are mixed with cigarettes and smoked by the users. Many users tend to consume the solvent with a misconception that it serves as liquid marijuana, but it is not liquid marijuana. It’s only synthetic cannabis mixed with water. Others also mix the powder with any liquid or semi-liquid that is high in fat content like cream, etc, while a few others consume it in the form of vapor. These psychoactive substances are dangerous and if a user doesn’t take the necessary precautions, it could be fatal. Some of the examples of synthetic cannabis include SDB-001, 5-EAPB, AB-FUCINACA to name a few. All of these substances are available online, but could be dangerous to potential users. Many reports of kidney failures, memory loss and other side effects have been reported because of these drugs.

Liquid marijuana is not about mixing powders and other substances to create a potent solvent. In addition, liquid marijuana is not made of synthetic components, but is made of real cannabis. It is safer than smoking cannabis mixed with tobacco as there is no risk of lung cancer.

**Cannabis tinctures:**

One of the most common forms of liquid marijuana is cannabis tinctures. The psychoactive chemical THC found in cannabis breaks down into oils and fats. In addition, it is easily soluble in alcohol. Thus, various drinks can be made by mixing the ingredients necessary. However, it is recommended that a user begins by ingesting small doses as consuming any drug in high does is dangerous. Also, consuming liquid marijuana is better because it induces better effects than the normal weed or marijuana. Since it is soluble in oil, a user can prepare his own blend instead of mixing it with alcohol as alcohol has its own side effects. Alcohol can prove to be harmful as it can damage the user’s liver so it is always better to use oil instead of alcohol. In addition a user must always moderate the dosage consumed, whether it’s liquid marijuana or normal weed.

**Medicines provided in liquid form:**

Sativex, also known as Nabiximols among physicians is a legal mouth spray developed by GW Pharmaceuticals from the U.K. Sativex is derived from the cannabinoids derived from cannabis. It is mainly used to treat spasticity, neuropathic pain and many other symptoms. Sativex, a legal drug manufactures from a combination of compounds derived from the cannabis plants actually acts better than other synthetic products found in the market. Reports suggest that many users have effectively gained a healthy lifestyle because of Sativex. Though the drug is very simple to consume, it is recommended that the patient ingests it only under observation.

Though the drug is formulated with the right composition and dose, it is actually a tincture obtained from the cannabis plant, which means that it is marijuana in its liquid form. Though the main components of this drug are THC and CBD, it is effective in treating various symptoms and is administered orally.

Some users smoke electronic cigarettes, also known as e-cigs through liquid marijuana. Consuming liquid marijuana is better than mixing weed with tobacco in cigarettes. Liquid marijuana is also mixed in rum, vodka and other types of alcohol to experience the effects of marijuana. Users can ingest marijuana in a variety of ways depending on their tastes.

**Chapter Seven: The Downside of Getting High**

Just like any other drug, marijuana has its side effects too. Although marijuana is surrounded by many misconceptions, the fact is that the drugs, which are more dangerous than marijuana, are legal, but marijuana faces a tough time with legalization. As attempts to decriminalize marijuana continue with some people supporting and some opposing it, others fail to understand the negative effects the drug might induce sometimes. Continuous heavy usage can hamper a person’s health. Though marijuana can be consumed in different ways, it is important to find the right way to consume it.

People who smoke marijuana smoke it by either rolling it as a joint or mixing it with tobacco. Mixing it with tobacco can be very harmful as the negative effects of tobacco contribute to a person’s ill health too. Many people have devised different ways ingeniously to consume marijuana. Marijuana is also reduced to a liquid form and some people consume it by mixing it with alcohol. That again is dangerous as alcohol also hampers a person’s health. Nowadays, many people also consume marijuana by producing butane hash oil also known as BHO, but if one doesn’t know the way to prepare it, it can explode and cause fatal injuries. It is probably the deadliest way to consume marijuana.

Marijuana can also be consumed in a vapor form and some companies manufacture tools which enable a person to inhale marijuana in a vapor form. Few other people consume marijuana by consuming cakes of marijuana just as they would consume food. However, the effects of the drug kick in after an hour or so and can be dangerous if a user consumes more than he/she can handle. As the effects of the drug are slow, some people assume that they aren’t affected by the drug and consume more. But after a while, it could prove to be disastrous.

Many people have stated that liquid marijuana is probably the smartest way to consume marijuana as on doesn’t have to smoke it. Excessive smoking of marijuana over a long period of time can be harmful. Many others have stated that liquid marijuana has also helped them calm down and relax. Basically, the drug induces a “happy state” but is not as dangerous as alcohol, cocaine, heroin and other intoxicating substances.

The major problem of smoking marijuana mixed with tobacco is the risk of respiratory illnesses. As tobacco contains many toxins, marijuana mixed with it is not very safe. In addition, people who smoke marijuana tend to inhale the smoke for a long time to increase the effects of the drug. This hampers the lungs as the user inhales more. However, it has never been proven that marijuana causes lung cancer, but tobacco definitely causes cancer. Apart from lung cancer, people might also be affected by lung inflammation, chronic bronchitis and other respiratory problems. Some people may also find it difficult to breathe after excessive use of marijuana for a long period of time.

Tobacco consists of tar, which is poisonous, and more than 130,000 people are reported to die every year in the United States of America just because of tobacco use. All these poisonous factors lead to lung cancer. However, one shouldn’t assume that smoking marijuana produces the same effects as smoking cigarettes, but smoking marijuana mixed with tobacco is harmful. Apart from lung cancer, smoking also causes larynx cancer and oral cavity cancer.

Constant, repeated and extreme use of marijuana can lead to problems in a user. Along with respiratory ailments, some people can also experience variations in their decision making process sometimes. Though marijuana hasn’t been proved to the main factor for road accidents, it is best to avoid driving when a person is intoxicated with marijuana.

The most common problem a marijuana user faces is employment. Though few states are on the verge of decriminalizing marijuana and making it legal, some people face trouble to gain employment. There are a variety of tests employed by many companies to hire employees.

Employers use different drug tests like urine, saliva, blood and hair tests to hire people. However, employers need to be careful as there are several laws against discriminatory practices and the employees have their rights too. That being said, if an employee asks too many questions about the tests, employers usually assume that he has something to hide. Therefore, both the employer and the employee has to be careful when it comes to drug tests.

The most popular method used in drug tests are instant tests. Many employers, parents and courts use the instant tests to determine whether the specimen of the user shows negative or positive for drugs. These tests are very advanced and sometimes it can just be a dipstick or a cup along with the test strip. In addition to that, it also has a built-in adulteration check. The results are displayed very quickly and are very easy for the person testing it as well as the person being tested. However, these instant devices are not used to ascertain whether a person is tested positive for a drug. It is used to understand if a substance needs to be tested further in the lab.

Drug tests can vary in different states depending on the laws of the state. For example, marijuana became legal in Colorado but many employers haven’t changed their policies regarding drug tests. This could result in people losing their jobs if they use marijuana and the drug tests show a positive result. It is always recommended that an employee check the labor laws of the state and the drug tests he/she needs to take before applying for a job.

**Drug testing:**

The most common question asked by employees is if they can refuse drug tests. Although it depends on the person and is his/her right to refuse a drug test, chances are that the person might lose the job. Often, it is assumed that the results of a person’s refusal to a drug test are similar to a person showing positive in a drug test.

**Encounter with the law:**

Many people face the fear of being arrested when they indulge in drugs. Though it is unlikely for a person to be arrested when he/she fails a drug test, it is possible for him/her to be arrested when caught during employment. In addition to that, the situation might get worse if a person is caught with drug possession. Often it leads to the person being fired from the job. As the technology has increased a lot nowadays, many employers also equip themselves with spy cams to understand the daily activities of the employee. However, this could be termed as an intrusion of privacy. As always, a lot of controversy surrounds the usage of marijuana.

**Urine test:**

It is one of the most common test used by employers to determine if an employee is good to be hired. The urine is analyzed as it shows the presence of drugs in a person’s body as residues. Intoxicating substances like marijuana, alcohol, cocaine, nicotine etc are screened in urine test. Some employers request for a mandatory urine test while some others go ahead without a urine test, depending on the rules of the company. Sometimes, employers request the employees to take up a urine test randomly.

**Blood test:**

Although it is not used as commonly as the urine test, many employers still request their employees to take up a blood test. It is not as effective as the urine test to check for residues after the effects of the drug are gone. However, it screens the amount of drugs present in the blood immediately when the blood is drawn.

Similar to a urine test, intoxicating substances like marijuana, cocaine, alcohol etc are screened during a blood test. Many employers have the blood test as a mandatory requirement for job applicants, but they can also request the employees to undergo a blood test even after they are employed. A blood test is usually done after the employee suffers an accident.

**Hair drug test:**

Hair drug tests are very effective as the residues of the intoxicating substances remain in the hair longer than they remain in the fluids of the body. It shows up drug residues even if the person has induced in any intoxicating substance prior to 90 days or 3 months before the test.

However, it doesn’t determine a person’s current state of drug usage, but only indicates the past. In addition, a hair drug test can determine residues of intoxicating substances like marijuana and cocaine but does not determine alcohol usage.

**Saliva test**

A saliva test is done by collecting samples of saliva from an employee’s mouth. Unlike the hair test, saliva test shows results of drug use only from the past two days. Saliva test determines intoxicating substances like alcohol, marijuana and cocaine. As saliva samples are very easy to collect, many employers use this method to determine if an employer has used any drugs. In addition, it is a very easy test and displays results considerably quickly.

**Different laws in different companies:**

As a lot of debate about its legalization surrounds marijuana, similarly many employers have trouble when they hire people. Different companies have different polices regarding the usage of intoxicating substances and in addition to that, they have to abide by the labor laws and laws of the state. Also, laws differ in many states and though marijuana is legalized in some states, employers have been known to fire people because of marijuana usage.

Therefore, when a person fails a drug test, it depends solely on the employer as to whether he is hired or not. Additionally, since many employers request their employees for a random drug test after they are employed, it is quite possible that the employer will fire the employee if he/she is found positive with drug usage.

Apart from that, whenever an employee is injured in an accident, the employer may ask him/her to undergo a drug test and if results are positive for drug usage, the employer can fire the person immediately.

Due to the varied laws of the states, some employers offer a second chance to the employee even after the results are positive for drug usage. Moreover, the laws encourage rehabilitation instead of harsh punishment for the person tested positive with drug usage.

Some employers may offer a second chance coupled with rehabilitation programs to the employees, and though it may be better than firing someone it could be done to suit their needs instead of the employee’s needs. Firing a person and re-hiring another person takes up a lot of time and money compared to rehabilitation programs. In addition to that, rehabilitation programs often induce employees to be sober and in turn make them loyal towards the company.

Some employees refuse rehabilitation as they might use drugs occasionally for recreational purposes. Quite often, the employees are stable and don’t require rehabilitation but in such cases, the possibilities of losing the job is higher. The employee might also lose his pay when he refuses rehabilitation. Therefore, it is very important for an employee to learn more about the labor laws and laws of the state before he/she applies for any job.

**Chapter 8: Smoking devices and how to use them**

As Electronic Cigarettes are safer than smoking cigarettes filled with tobacco, it has gained a lot of popularity among people. Many users who try to quit smoking also use e-cigs. Basically, if a consumer lights a normal cigarette, the tobacco burns and releases nicotine in the form of smoke. The person smoking the cigarette inhales the smoke to consume nicotine so that it spreads to his blood stream. An e-cig works in a completely different way.

E-cigs convert the nicotine into vapor by heating it. It produces a mist or vapor and is inhaled by the user. There are many types of e-cigs available in the market today and consumers can use it depending on the way they require. A user can inhale the vapor through the cartridge or use a manual switch that is available in some e-cigs to inhale vapor.

An e-cig consists of three parts including a lithium battery, chamber for vaporization and a cartridge. The lithium battery is rechargeable and a normal charger used to charge cell phones can charge the battery. This lithium battery is used to power the e-cig and enables it to work efficiently. The vaporization chamber is connected to this battery through a tube that consists of an atomizer and electronic controls. This entire set creates the vapor and before the consumers activate and use the e-cig, they attach the cartridge to the chamber. Ultimately, the consumers use the tip of the cartridge to inhale the vapor.

Many people use E-cigarettes as an alternative to smoking normal cigarettes filled with tobacco. Consumers smoke e-cigs because there a lot of benefits of smoking them instead of cigarettes.

Advantages of smoking e-cigs are:

1. E-cigarettes don’t emanate an odor compared to a normal cigarette. A strong odor produced from normal cigarettes is generally detested among people. It is a dead giveaway for people who smoke and many people prefer cigarettes that are odorless, but since there are no cigarettes manufactured that are odorless, people prefer e-cigs. In addition, cigarette smoke odor clings to the body and people avoid close contact with the user. Moreover, the tar, tobacco and other chemicals mixed in the cigarette contribute to the odor. However, e-cigs don’t emit an odor because consumers exhale a vapor instead of exhaling smoke like they would with normal cigarettes. Many users say that the e-cigs emit an odor that smells like cotton candy and some users claim that e-cigs don’t emit any odor at all. This is the first advantage as to why users prefer e-cigs compared to traditional cigarettes.
2. Another advantage as to why users choose e-cigs is because they are not as expensive as normal cigarettes. Due to the demand created by people, cigarettes are very expensive. A few years ago, one could easily buy a pack of cigarettes at a cheap rate, but now the prices of cigarettes have literally doubles, making it very difficult for people to buy them. This is happening due to inflation and a rise in the cost of tobacco and fuel. On the other hand, e-cigs are much cheaper compared to cigarettes. Though the initial cost required to buy the set up could be expensive, the costs begin to reduce every month,, once the consumer starts using them.
3. E-Cigarettes are safer than cigarettes that contain tobacco. As consumers have to light a normal cigarette to smoke it, one can’t forget the possible fire hazards that comes along with them. Cigarettes are known to cause many deaths in many countries because of these fire hazards. With e-cigs, a user doesn’t have to light a flame to be able to use it. Among the millions of people who have used e-cigs, there was only incident reported about an e-cig exploding on a customer’s face. However, after further investigation, it was known that the user had altered the e-cig device to inhale the vapor. Therefore, it is necessary for users to use the e-cig by following the exact instructions that come along with it.

4) E-cigs are safer than cigarettes not only because of the fire hazards, but also because of other health issues. It is common knowledge that cigarettes can be very harmful to a person’s health because of its tar, tobacco and other chemical components. Though it hasn’t been proven that e-cigs are not hazardous, it is very obvious that cigarettes containing tobacco have more potential to destroy a consumer’s health. Cigarettes are known to cause many ailments including heart attacks, lung cancer, throat cancer and a lot more. Comparatively one can’t see many reports that talk about e-cigs causing any diseases. In addition, many users have claimed that they felt better after they switched from regular cigarettes to E-Cigarettes.