



Germinating Cannabis Marijuana seeds

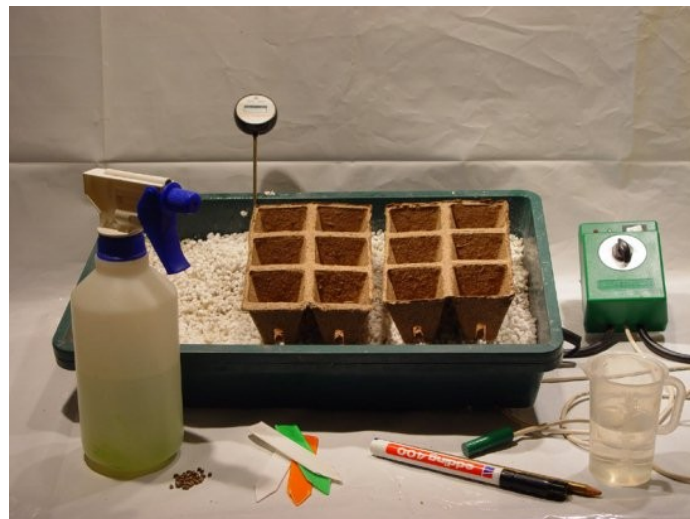
Introduction

Much controversy surrounds the raising of cannabis seed. Many first time growers are bombarded with advice, often conflicting, on how exactly this should be done; however it need not be such a complicated task. Cannabis seed is simple to grow, and if fresh, 90-100% germination rates are not unusual.

The 'Kiwiland Method' for raising seed, has been developed from professional horticultural practices used the world over. We use it because it works, and it's simple.

Needed equipment

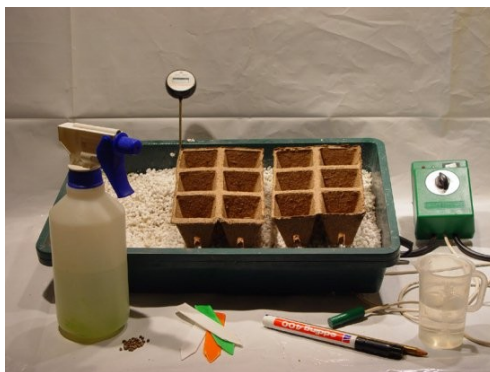
The list below is standard equipment recommended by Kiwiseeds and assumes you already have the necessary grow space and lighting set up. If you haven't already got your equipment you can buy that online at <https://www.kiwiland.com/>



1. Propagator with bottom heat or
2. Heat pad + seed-tray
3. Thermostat controller
4. Soil thermometer
5. Perlite
6. Large jiffy pots + seed-raising mix or
7. Rockwool starter blocks
8. Fine sprayer
9. Identification labels

Perlite preparation

Wet thoroughly enough perlite to cover the bottom of the propagator approximately 2cm deep. Plug the propagator, or heat pad, into the thermostat controller, plug the controller into the power and set for 23 C. Place the heat-sensing probe into the wet perlite just beneath where the seedlings roots will be. If using a heat pad lay it out beneath the propagator tray.



Jiffy pots preparation

Pre-soak the jiffy pots in warm water then fill them to the top with seed-raising mix making sure to take out any bigger pieces that may obstruct the young shoot as it emerges.

(This can also be done with the help of a coarse sieve if you like.)



Completely saturate the jiffy-pots and their contents, but allow them to drain well. Do this carefully so as not to wash the fine soil away. Top them up and repeat if the mix has sunken too much. It's important to have them as full as possible to give the young roots plenty of room to grow for the week or two until they are potted on, and, because having a greater volume of mix in the pots means they take longer to dry out under the warm lamp.



With a thin pointed object such as a pencil, make a small hole in the centre of each jiffy-pot about twice the depth that the seed is long (This varies with strain, but 5-8mm deep should be sufficient. Often the mistake is made of planting seeds too deeply, and they rot before they see the light of day. To ensure this doesn't happen, never sow seeds deeper than 1cm). If sowing more than one variety remember to prepare identification labels in advance, and label them as you go to prevent mix-ups.



Put the cannabis seeds in Jiffy pots

Sow seeds directly into the holes, and cover with a little of the moist seed-raising mix from around it with the help of the pencil. Use a little more fine mix if needed. Some growers have the patience to sow seeds a certain way up, and this can be beneficial, especially with big seeds. If this is done place the seed, point up, ensuring the root can travel downwards with ease.



Watering the seeds

Using the mister bottle, spray the freshly covered seeds until the mix is damp. Don't pour water onto the pots as this can wash away the mix and expose seeds.

Transfer jiffy-pots into pre-warmed propagator tray, and settle them in making sure the wet perlite surrounds the pots, getting right up between them. This ensures the pots stay moist until well after the seeds germinate, protecting the young roots from drying out.



Lighting, temperature & humidity

Set the tray under either fluorescent lighting or a low-wattage H.P.S. to keep the newly planted seeds warm. At this stage no light is necessary but warmth is important, and low light provides this without drying the pots out. An air temp of 20-22C is ideal, a degree or two lower than the soil temp (around 23C). Humidity if regulated can be set for around 60%.



Growing the cannabis seedlings

As soon as the seedlings have germinated they need light. The food store supplied by the seed itself has all but been used up, and the plant needs light to photosynthesize and grow.

When growing marijuana in the vegetative stage you may choose how long you wish to keep the lights on, as long as it's 18 hours or more. Advantages are that plants will grow faster with 24 hours light, and a constant temperature is easier to maintain this way, something hugely beneficial to young seedlings. Disadvantages are that you'll need to water more of course, your lamps and ballasts don't get a break, and the electricity bill increases.

Some advise to keep young seedlings under fluorescent lighting for a while but this doesn't provide them with the correct spectrum for photosynthesis. It is best in our opinion to place seedlings directly under low wattage H.P.S lamps, 150/250/ or 400 watt, at a good distance away.

Once the plants are a few days growing they need to be moved closer to the lamps in order to prevent stretching. Move them as close to the lamp as the tops of any plants would be comfortable. (30-60cm depending on the lamp size.)

Make sure a breeze (oscillating fan) is blowing over the young plants, primarily so they don't over heat, but furthermore to help strengthen delicate stems by stimulating cellulose production. Spindly stems cannot support heavy flowering growth. The importance of your internal air circulation cannot be stressed enough. It will exercise your plants and make them grow stronger, while reducing many hazards that could ruin your crop.

Now that the plants have strong light they require more water and nutrients as well. A light organic feed or nutrient solution starting with an E.C of no more than .8 (with the water already at .5) can be sprayed directly on the plant and watered into the soil. The seed-raising mix contains no nutrients so within a few days the plants will be hungry.

Young seedlings love humidity, and a constant 60-70% is ideal at this stage. Use a cheap mister bottle, and spray regularly fresh water (ph- 6.5-7.5) over the leaves. This increases humidity, and washes dirt and dust off the leaf surface, unclogging stomata and enabling the plant to breathe properly. In natural conditions the rain would do this for us.



Problems raising seedlings

Problems can occur during germination. Here is a list of some of the more common reasons why your seeds may not be doing so well.

Too wet

Seeds need to be damp, not wet for germination. Excess water prevents oxygen getting to the seed. Poorly drained soils may also cause soil fungus diseases. The condition of wet soils may be improved by adding perlite, which will airate your soil. Make sure any trays or pots you use have holes in the bottom to let excess water drain.

Too dry

A certain amount of water is essential for germination, so maintaining a constant soil moisture during the germination period is vital. Spray the soil surface with a fine mist, or cover containers with glass or a damp cloth to prevent you soil drying out. Make sure you remove the cloth once the shoot emerges.

Too hot

High temperatures result in excessive soil desiccation and injury to seeds and seedlings. We recommend a constant temp of 20-25 degrees.

Too cold

Cold temperatures can kill seedlings and prevent germination. Cool temperatures can result in slow, un-even germination, and attack by soil diseases. If growing outside, you may want to start your seeds indoors, before out planting. Make sure planting is not done too early, when there is still a chance of frost.

Too shallow

If you sow your seeds too shallowly the seeds can dry out. A depth of between .5 to 1cm is about right.

Soil too firm

Making your soil mix too firm can prevent oxygen getting to your seeds and drainage can be affected. Pat freshly covered seeds lightly with your fingers.

Soil too loose

Soil that's too loose results in too much air surrounding the seed. Seeds planted in this manner will not absorb moisture properly, and it's likely they'll dry out. Cover freshly sown seeds with fine mix and pat down lightly with your fingers.

Soil fungus

Seeds may rot, or the young seedlings may fall over. Over watering, poor drainage and lack of aeration will increase the likelihood of this occurring. Plant seeds in sterilized potting mix, and make sure your containers are clean.

Non-viable seed

If your seeds have not been stored correctly they can deteriorate. Look for darker seeds that are a little bigger, without cracks or chips. Any seeds that look shrivelled or wrinkled should be discarded, as this means the seed has dehydrated and is dead.

