

Hemp and Cannabis

1 Year of Packagd Cannabis with sachets



1 Year of Packaged Cannabis without sachets



Ethylene gas plays a major role throughout the entire process of hemp and cannabis. Both positive and negative. Ethylene is a colorless, odorless gas that is widely used in all agricultural environments. Ethylene gas is a naturally occurring plant hormone that is produced by anything that grows. It is in fact exactly what causes the ripening of fruits, vegetables and flowers. It is present in trace amounts throughout a plant's life, stimulating or regulating the ripening of fruit, vegetables, the opening of flowers and the shedding of leaves. The buildup of the ethylene in most plant-growth stages can be detrimental. It can inhibit growth, maturation, and cannabinoid essential oil production.

From Seed to Packaging

- Seed germination - Although ethylene plays a very important role in seed germination, no ethylene control is necessary as long as the seeds have been soaked properly for around 24 hours then placed properly in a dark environment between 70-90 degrees Fahrenheit. These seeds will naturally produce an efficient amount of ethylene on their own. Although, ethylene can be introduced to the seeds to speed up the germination process.

- Seedling stage - After germination, delicately transfer the seedlings to a growing medium. Use small pots or seedling trays filled with light, and a airy soil mix. Ensure the soil is moist but not overly saturated. Provide the seedlings with 18 to 24 hours of light daily, preferably using fluorescent or LED grow lights. A temperature of around 70 to 75 degrees Fahrenheit is optimal for growth. Proper ventilation is also important to prevent mold or fungal growth. In this scenario, ethylene control is unnecessary as ethylene is needed to help the maturation of the seedling

although it can help to eliminate mold and fungal growth it will slow down the speed at which they reach the vegetative stage.

- **Vegetation stage** - During the vegetative stage, cannabis plants focus on growing leaves and branches. To promote healthy growth, give your plants at least 16 hours of light daily. Use specialized grow lights. Maintain a temperature range of 70 to 80 degrees Fahrenheit and monitor humidity levels to avoid excessive moisture. Using nutrient-rich fertilizers with higher nitrogen content is recommended to support robust growth. Over Fertilizing can damage the plants, so it is important to be cautious when applying fertilizers. Proper watering is also essential to prevent overwatering and root rot. Water the plants when the soil is evenly moist but not waterlogged.
The length of the vegetative period has a significant impact on the overall yield of cannabis plants. The longer they remain in the vegetative period, the more branches they form, and the more buds they will be able to produce. So, if yield is your top concern, prolonging the vegetative period is essential and ethylene removal would not be necessary.

- **Flowering Stage** - After several weeks of vegetative growth, cannabis plants are ready to enter the flowering stage. To initiate flowering, the light cycle needs to be adjusted to 12 hours of light followed by 12 hours of complete darkness. It's important to maintain consistent light and dark periods to avoid stress on the plants. The length of the flowering stage can vary depending on the strain, but typically lasts 8 to 10 weeks. During this stage, it's crucial to monitor the trichomes on the flowers. Trichomes are responsible for producing cannabinoids, which give cannabis its potency. As the plants mature, the trichomes change from clear to cloudy or amber, indicating the optimal time for harvesting. During this stage is when our EF-100 filtration system is most commonly used. Our organic filter media works great for eliminating unwanted odor, rot and mold spores as well as decreasing the amount of yellowing leaves and over production of ethylene caused by soil, as well as any decaying matter such as dead leaves and other organic substances.
- **Harvesting** - Harvesting does not need much explaining as ethylene plays no role whatsoever in this stage of the growing process.

- **Curing** - Cannabis products should typically fall 5-15% moisture content, with optimal levels between 6% - 9%. No matter what, though, any moisture content higher than 15% puts the product at risk for microbial contamination, mold, mildew, and fungal growth. This can be controlled by use of our ethylene removal sachets. We will explain this in more detail in the packaging stage
- **Trimming** - Trimming is another stage which does not need much explaining as ethylene plays no role whatsoever in this stage of the growing process.
- **Packaging** - Just like any fruit, Vegetable or flower, cannabis will continue to mature and therefore go bad and lose potency once packaged. Ethylene is the main cause of this as cannabis will still have a moisture content. Our sachets are a perfect solution to extend the shelf life of cannabis up to 3 times longer. Not only will our sachets oxidize the ethylene buildup but will also help eliminate unwanted mold that can arise from the moisture content without removing any moisture.