Cannabis Cultivation Summaries

Drought Stress Techniques for Cannabis

Applying controlled, moderate drought stress to cannabis plants can enhance the production of cannabinoids and terpenes, thereby improving the overall quality and yield. The key is to apply just enough stress to stimulate these compounds without causing damage to the plants.

Chlorine in UK Tap Water and Cannabis Growth

Contrary to some myths, the levels of chlorine typically found in UK tap water are not harmful to cannabis plants. In fact, chlorine acts as an

essential micronutrient, helping to open the stomata, which are the breathing mechanisms for plants, facilitating the intake of carbon dioxide and release of oxygen. While excessive chlorine can cause oxidative stress and potentially harm beneficial soil microbes, the typical levels in tap water are generally safe and can even benefit plant health.

The Importance of Allowing Soil to Dry Back

Soil contains both aerobic (oxygen- requiring) and anaerobic (oxygen-free) microbes. Aerobic microbes, such as *Pseudomonas* and *Bacillus* species, thrive in oxygen-rich environments and are essential for nutrient cycling, organic matter decomposition, and overall soil health. Anaerobic

microbes, like *Clostridium* species, thrive in low-oxygen conditions and can produce less desirable by-products that may harm plants. Allowing the soil to dry back periodically creates a balance by re-oxygenating the soil, pushing out stale air, and promoting the growth of aerobic microbes. This enhances nutrient availability, improves root health by encouraging deeper root growth, and prevents the buildup of harmful anaerobic bacteria.

The Case Against Using Cover Crops in Cannabis Cultivation

While cover crops and nitrogen fixers can benefit soil in many agricultural contexts, they may not be ideal for cannabis cultivation. The primary concern is that cover crops can keep the soil consistently moist, which can be detrimental to cannabis roots

that thrive in well-aerated conditions. Additionally, the introduction of cover crops can sometimes attract pests, which may pose risks to the cannabis crop. Therefore, if the soil already has adequate organic matter and nutrients, avoiding cover crops can maintain optimal conditions for cannabis growth.

Advantages of Growing

Cannabis in Containers vs. Large Soil Beds

Growing cannabis in containers offers significant benefits over large soil beds. Containers provide precise control over soil moisture, allowing the soil to dry out evenly and preventing waterlogging, which is crucial for root health and avoiding root rot. This also helps maintain optimal soil temperature, promoting healthier root systems and

better nutrient uptake. Additionally, containers reduce the risk of soil-borne diseases and pests, as the growing medium is more contained and easier to manage.

Scientific studies have shown that these conditions lead to improved plant growth, higher yields, and overall more efficient cultivation.

Dynamic Microbial Populations vs. Constant High Levels

Scientific research suggests that the health of cannabis plants is best

supported by allowing microbial populations in the root zone to fluctuate rather than remain at consistently high levels. A study published in

Acta Horticulturae (1996) highlighted that the introduction of plant growth-promoting rhizobacteria in hydroponic systems caused shifts in microbial communities, showing that a dynamic microbial environment supports better plant health.

Excessive microbial populations, however, can lead to competition for nutrients and space, potentially harming the plants. Moreover, once microbial activity reaches a level sufficient to break down organic matter and support plant growth, any further increase in microbial population does not add benefits.

This understanding is often overlooked by some companies in the hydroponics industry, which market products that promise to boost microbial levels beyond what is necessary, driven by financial incentives. In reality, maintaining a balanced microbial environment is more

cost-effective and beneficial for optimal crop production.

Optimal Soil Volume for Maximum Cannabis Yield in a 1.2 x 1.2m Space

Research indicates that for optimal cannabis growth and maximum yield within a 1.2 by 1.2-meter area, About 150 - 200 litres of soil example 9 x 18 litre pots 6 x 25 litre pots 4 x 40 litre pots is adequate.

This amount provides enough nutrients and space for the roots to expand without unnecessary excess, which can lead to resource wastage. Overly large volumes of soil do not translate into

higher yields and can sometimes lead to issues like water retention and reduced aeration.

This finding counters the trend of some companies in the horticultural industry that promote excessively large soil volumes, encouraging unnecessary spending without added benefits.