



Considering Cannabis?

What you need to know before plunging into this emerging market

BY BRIAN CORR

As margins decrease in traditional horticulture many greenhouse managers are considering alternative crops, including legal production of cannabis. This article is a brief summary of the similarities and the differences between traditional horticulture and cannabis production and issues to weigh prior to considering producing cannabis in the United States (regulations in other countries vary).

First, it is important to remember cannabis production in the United States remains federally illegal, independent of laws passed by states. As of this writing, the 2016 omnibus

appropriations bill extends the “cease fire” in enforcing federal laws in conflict with state laws. However, some candidates for public office have stated if elected they would resume federal prosecution of the cannabis industry, regardless of state laws. Many political prognosticators consider this unlikely since 40 states have already legalized cannabis use or production in some form and more are considering it. Nevertheless, anyone entering the cannabis industry needs to understand that under current laws he or she could face prosecution.

CROSSOVER PRODUCTION

The traditional greenhouse industry has production methods and insights applicable to the legal cannabis industry:

- Cannabis grows best with high light levels. This has often been achieved growing cannabis in warehouses under numerous high-

pressure sodium lights resulting in extreme energy consumption by the lights as well as the HVAC necessary to remove heat from the lights. Greenhouses are more energy efficient due to the innate advantage of sunlight coming through the roof.

- Cannabis has similarities to crops familiar to greenhouse producers. Like chrysanthemums and poinsettias, cannabis is a photoperiodic plant, requiring long days/short nights to remain vegetative and short days/long nights (nights 12 hours or longer) to flower.

- Producers of ornamental plants who are skilled at providing the various cultural requirements of dozens of species and perhaps hundreds of cultivars will be comfortable growing one species (*Cannabis sativa*) and perhaps a few dozen cultivars (called “strains” in the cannabis world).

NOTABLE DIFFERENCES

There are some significant differences between traditional horticulture and cannabis production however. The first is the process of getting a license to produce cannabis:

- The process of applying for a cannabis license is unlike anything done by business owners in traditional horticulture. Most license applicants hire a consultant to assist in the process. Some applicants with experience in grant or proposal writing have successfully prepared license applications, but these individuals usually made preparing the application a full time job.

- It is important to remember the first criterion when making a decision about the business is how to satisfy regulatory requirements. Whether the decision is otherwise optimal is secondary.

COMMON REQUIREMENTS

Once (or if) a license is obtained, the cannabis producer must fulfill the requirements unique to cannabis production. Regulations are not consistent from state to state, but there are some common requirements:

- Cannabis production requires security much greater than a typical greenhouse. Regulations often require opaque sidewalls to prevent the cannabis from being seen from outside. Cameras are usually required to provide a video record of all activities for months or years. Employees usually must be screened and registered with the state.

- Producers not already familiar with food crops need to establish food-grade sanitation in production and especially in harvesting and processing of cannabis.

- Inventory management of cannabis is very stringent, requiring tracking each plant “seed-to-sale.” Most producers

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rely on specialized software to track the plants and activities related to the plants.

- Because the Environmental Protection Agency is a federal agency and cannabis is still federally illegal, there are no pesticides registered for use on cannabis. Some states (for example Colorado, see www.colorado.gov/pacific/agplants/pesticide-use-marijuana-production) have prepared a list of pesticides considered suitable for use in cannabis production and are investigating special local need registrations.

- The federal prohibition of cannabis results in problems unheard of in traditional horticulture. Banks are reluctant to handle proceeds of cannabis sales. The United States Postal Service will not handle advertisements for cannabis. Some traditional business tax deductions are not available to cannabis producers.

- Unlike traditional horticulture crops, most states require cannabis be tested by an approved lab for cannabinoid content and for pesticide residues, heavy metals or any harmful biological contaminants.

CULTURAL RECOMMENDATIONS

Professional horticulturists will have no problem finding cultural recommendations for cannabis in books and on websites. However, traditional horticulture producers are accustomed to having access to research reports from trials designed and conducted by university researchers or industry suppliers.

Cannabis production information is primarily anecdotal, not from controlled trials. This means cultural recommendations must be taken at face value and evaluated for accuracy.

Some general cultural requirements for cannabis production include:

- Cannabis thrives at temperatures higher than many horticulture crops. Optimum temperature for growth is approximately 79° F, although it can tolerate lower temperatures, though with slower growth.

- Cannabis benefits from high light levels (up to 1,500 $\mu\text{mol}/\text{m}^2/\text{sec}$) and supplemental carbon dioxide (up to 1,200 ppm).

- Different cultivars of cannabis (strains) have different “response times,” the time from initiation of short days to maturity. However, information on response times is limited.

- There is a lack of genetic consistency within cannabis cultivars labeled with the same name. Phylos Bioscience recently reported testing of samples all with the same cultivar name yet with large genetic distances between the samples. Therefore, plants with the same name received from different sources may not be the same cultivar.

One last comment — I have yet to meet anyone with a reliable track record of forecasting the future of the cannabis industry. Forecasts in any industry are prone to errors, but cannabis has so many variables with so many unknowns any prediction of the future will almost certainly be at least partially wrong (my predictions included). Therefore, when designing a production facility one should plan for expansion in cannabis production but prepare for alternate contingencies, including switching to other crops. [gpn](#)

Brian E. Corr is a consultant with more than 40 years of experience in traditional horticulture. In the last year-and-a-half he has also consulted with groups applying for licenses for production of medical cannabis. He can be reached at sycamorehortconsulting@gmail.com.



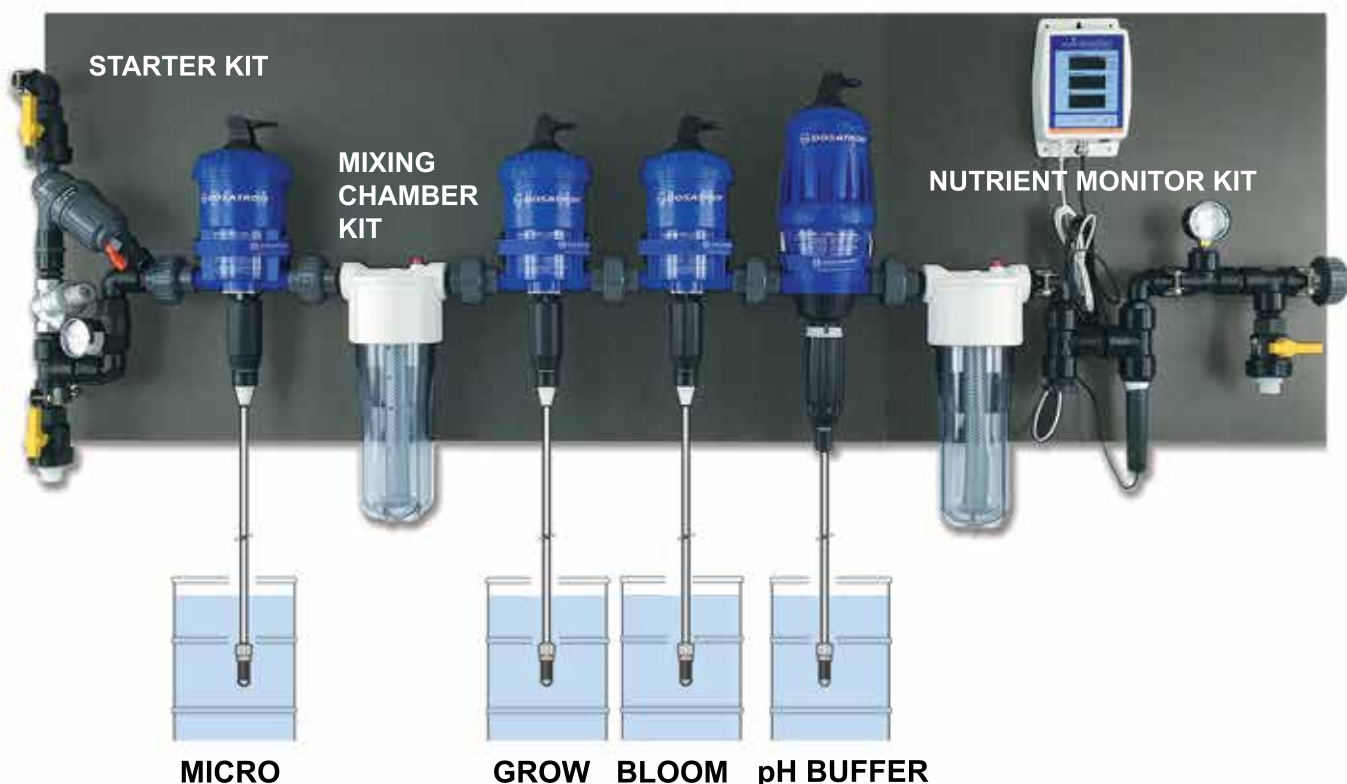
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