Cannabis: why bigger isn't always better

In this first instalment of a new monthly column on cannabis farming, commercial cannabis cultivation consultant **Thomas Walker** discusses design, yields, operational considerations and the consequences of 'going big' when growing this crop commercially.

BY THOMAS WALKER

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Judging by recent reports, large Canadian cannabis cultivation companies such as Canopy Growth and Aurora are in deep trouble. There are two main reasons for this.

First, their capital expenditure is twice as much as their income; second, their strategy from the outset has been to monopolise the cannabis industry by buying up all available licences worldwide. In many cases where licences were acquired, the companies constructed excessively large cultivation facilities expecting to produce top-shelf buds at full capacity.

What these companies failed to take into consideration is that every new facility requires a 'dial-in' period. This is the time it takes to address any shortcomings in the equipment or operations of a newly built facility, which can vary greatly depending on size and cultivation methodology.

It is prudent to start with a manageable cultivation area. Once this is producing a profit, expansion can be achieved easily by submitting an amendment to the licence.

The processing facility should be laid out at the beginning to allow for full production. This will avoid having to add extra floor space to the facility later, or undergo further costly EU Good Manufacturing Practice and Good Agricultural and Collection Practice inspections and audits.

PLANT SIZE AND DENSITY

Cannabis plants grown commercially need to be accessible and easily manageable to ensure continuous production. Canopy height at inception and end of production should be planned carefully to ensure that the correct light intensity is achieved by the supplemental lighting in a greenhouse.

In the case of outdoor production, logic dictates that one should aim for the largest plants possible, maybe even trees! Yet bigger is not always better. Climate will largely dictate the optimal plant size and planting density. For example, plants will naturally tend to be small in areas that experience high winds throughout the year.

My clients often question the dry flower yield forecasts I provide, as they are easily influenced by 'best-case scenario' projections given by suppliers of seed or other plant material.

An experienced grower knows that vegetation time is the principle factor dictating yield. Any cultivar, apart from the auto-flowering variety, can produce a large yield if its vegetation time is extended.

PLANTS THAT GET TOO BIG ENCROACH ON ONE ANOTHER AND CREATE MICRO-CLIMATES

Many production issues are compounded when growing excessively large plants. Airflow is diminished throughout the cultivation area, leading to higher humidity, increased pest pressure, and a greater chance of powdery mildew and/or botrytis due to micro-climates and the sheer density and size of the buds.

Botrytis usually starts within the bud; once the symptoms of the pathogen are visible, it is usually too late to address the problem, and huge crop losses will be inevitable.

Spacing is also important. Plants that grow too big encroach on one another and create micro-climates, further cutting down airflow.

Another problem with keeping potted cannabis plants in extended vegetation is that pest pressure in the soil tends to build up due to sustained growth.

The bottom line is that when it comes to commercial cannabis, bigger isn't always better. More important is how many growth cycles can be achieved in a calendar year. ■ FW