



Beginning Hemp?

KEYS TO SUCCESSFUL PRODUCTION IN NEW YORK STATE

The rapidly expanding hemp and CBD interest over the past year has brought many questions to light about this new/old crop and its market.

Rules & Regulations

To learn about the industrial hemp program and permitting in New York State, go to:
<https://www.agriculture.ny.gov/PI/PIHome.html>

For processing regulations (FDA 21CFR 101,111,201) look here:
<https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcr/cfrsearch.cfm>

Q&A on Cannabis products from FDA:
<https://www.fda.gov/newsevents/publichealthfocus/ucm421168.htm>

General Beginning Farmer Resources

Cornell Small Farms Program: <https://smallfarms.cornell.edu/>
Cornell Beginning Farmers: <https://smallfarms.cornell.edu/resources/beginning-farmer/>

Excellent Production Resources:

Canadian Hemp Trade Alliance Hemp Production eGuide: <http://www.hemptrade.ca/eguide>
Purdue Hemp Project: <https://purduehemp.org/>
Ontario Min of Ag, Food and Rural Affairs: <http://www.omafra.gov.on.ca/english/crops/facts/00-067.htm>

Grain & Fiber Seed Sources:

Fiacre Enterprises, Inc in Charlottesville, VA - contact Mike Timko - michael.timko@fiarceenterprises.com
New West Genetics in Fort Collins, CO - <http://www.newwestgenetics.com/>
Valley Bio in Cobden, Ontario: <http://valleybio.com/>
Parkland Seeds in Dauphin, MB: <http://www.pihg.net/>
Hemp Genetics Intl in Saskatoon, SK: <http://www.hempgenetics.com/>
Schiavi Seed in Lexington, KY: <http://www.schiaviseeds.com/>
International Hemp Solutions/Bija Seeds in Denver, CO: <https://internationalhempolutions.com/>
Terramax in Qu'Appelle, SK: <https://terramaxcorp.com/x-59-hemp-nut/>; distributed through Legacy Hemp: <https://legacyhemp.com/>

CBD Genetics Sources:

Locating seed, transplants, or cuttings of CBD varieties is more complicated than seed for grain/fiber varieties. It is recommended that you research variety preference from your customer, likely this is the processor who you will contract with for production. Typically, the processor will have a relationship with a breeder. Note that CBD production is most efficient/profitable if all of the plants are female and that to purchase seed, even feminized, seed runs the risk of male plants being present. Fully research the source of your CBD genetics to ensure quality such as $\leq 0.3\%$ THC reliability.

Best Fertility Scenario for Successfully Growing Hemp on mineral soils:

- pH around 6.5 for mineral soils.
- Well drained loamy- loamy clay soils where CEC's are 12-20. Avoid compacted soils and heavy clay high Mg/ Na soils. Cation exchange level of Mg should be under 20%
- Good to very good OM as N is important to hemp.
- P according to the Olsen test should be better than 15PPM & if the Mehlich 3 test is used then at 35 PPM (Dairy One uses modified Morgan)
- K range 158 PPM to 235 PPM.
- Base saturation on cation exchange in the 2.5% - 4%
- S is important. Range of availability should be 10N:1S.
- If producing hemp on muck soils, contact your Extension Specialist to interpret the above recommendations.

Cannabis Testing Labs:

East Coast Labs 172 Taunton Avenue East Providence, Rhode Island 02914 https://www.eccltesting.com/ Contact: matthew@eccltesting.com (401) 400-2709	ProVerde 420 Fortune Blvd. Milford, MA 01757 http://www.proverdelabs.com/ Contact: Chris Hudalla (617) 221-3356	MCR Labs, LLC 85 Speen St. Framingham, MA 01701 https://mcrlabs.com/ Contact: Michael Kahn (508) 872-6666
CDX Analytics 39 Norman St. Salem, MA 01907 https://cdxanalytics.com/ Contact: Brian Strasnick (978) 619-2244		<i>Different labs provide different services. It is recommended that you test your crop prior to NYS Ag & Markets testing. Research how results are reported/interpreted by each lab so as to be compliant with the law. To sample efficiently, research what other tests a processor may request prior to purchase.</i>

Business & Marketing:

Cost of grain/fiber production information: <https://hemp.cals.cornell.edu/2019/01/25/new-report-economics-of-producing-industrial-hemp-in-new-york-state/>

NYS Hemp Exchange for buying/selling: https://s3.amazonaws.com/assets.cce.cornell.edu/attachments/36095/2-19_hempads.pdf?1550584502

Post your buy/sell ads at: https://cornell.qualtrics.com/jfe/form/SV_e35Eb3pNfpWkqhv

Trade Organization:

Hemp Industries Association: <https://www.thehia.org>

Programming Near You:

To find your local Cornell Cooperative Extension Specialist working on hemp, go to:

<http://hemp.cals.cornell.edu/extension/>

Hemp Contracts – Reducing Your Risk

For the most part, this section will focus on CBD production because that is where the most risk of investment per acre exists. However, some of these points are certainly applicable to grain or fiber for processing.

This new market is attracting investors and interested parties from non-ag backgrounds. It is important to discuss all of the potential pitfalls that come with agriculture with these partners. Of course, farmers are well-aware of all the potentialities of Mother Nature. It is best to reflect all of those in the contract as well as some others, to protect the farm's investment.

Contracts are a necessity but to have to enforce a contract, in court, is expensive and not the optimal situation. It is best to develop a relationship with respectable businesses and ethical partners who are reliable and adept at negotiating expectations verbally as well as what is in contract.

In combination with a solid business relationship the contract should reflect the areas below. Certainly any situation may need additional reflection. Hopefully, this will be a good start for the new venture.

First Step

The first step to growing hemp, after researching the crops and markets thoroughly, is applying for a permit to grow and/or process. This is done through New York State Department of Agriculture and Markets. As of 2019, there will no longer be affiliated grower permits so the farm entity will have to have its own permit - independent of other hemp businesses. It is recommended that the hemp business be its own entity (preferably LLC or S corp.) especially if processing will be involved. This does mean additional fees and possibly additional insurance but, given the legal intricacies of this crop, it is a wise measure.

Acquiring Genetics

Obtaining CBD genetics is one of the more relationship-oriented areas of this crop. Plant matter acquisition can be a complicated activity. It is not as if one can open a commercial seed catalogue and find a select variety. Varieties are privately owned and access to seed, transplants, or "mother" plants requires knowing an owner-breeder. Questions that should be reflected in a growing contract:

- Who is providing the plants/seeds?
- Who owns the intellectual property of the seeds/plants and how will those use agreements be respected?
- Who is determining which variety will be grown?
- Who is transporting seeds/plants and when will they be acquired/delivered?
- What growth stage will they reach the farm?
- What happens if seed germination is low or transplants arrive damaged/infected/infested/dead/too big or small for transplanting equipment?
- Who is responsible for seed quality especially feminized* seed, ensuring there are very few males?
- What if many males (>10%) appear in the maturing plants? Who is financially responsible for removal?

****Seed can be feminized in different ways, resulting in different male to female ratios in the field. When planting CBD, assurance that there are very few males, optimally none in the field, is critical to reducing cost of production and maintaining CBD quantity. Pollination can significantly reduce CBD % in final products, reducing its value.***

And, finally, who owns the crop and when? If the processor provides transplants, at what point does the farm take ownership and responsibility for the crop? When they are shipped from the greenhouse or when they are in the ground? Similarly, when does ownership of the plants change end of season? It should be FOB terms - grower responsibility ends at farm-gate.

Other duties that should have clear assignments and timelines, if possible, include:

harvesting, drying, stripping, chopping
transportation, storage until processed

Testing

NYS Dept. of Ag & Markets will be sampling the crop to be sure it meets the <0.3% THC content. It is recommended that the farmer also test the product a couple of weeks before DAM testing so there are no “surprises” as to the utility of the product.

The contract should reflect the party that will be financially responsible for CBD or other quality testing such as residue or contaminants.

These tests can be quite expensive and contracts should reflect:

**how often and how many (per field, per ton of product, per variety, etc.)
which tests, specifically and, possibly, a method of testing
recognition of THC test calculations and limits as per the law
which laboratory will perform**

Clauses: Non-Compete, Indemnification, and Confidentiality

A processor may ask that a non-competition clause be included in the contract. The farm’s management and attorney should evaluate this very carefully. What are the specifications in terms of duration, acreage, poundage, variety etc.? It is not uncommon for a buyer to secure their product in this way however, if the farm were to have an additional opportunity with another buyer or excess crop the buyer did not contract for, can they develop that market or will they be restricted? If the farm agrees to this restriction, there should be ample compensation to balance the potential profits derived from additional sales relationships.

It is also recommended that the farm/grower be indemnified or “held harmless” for all activities that occur once the product has changed ownership to the processor. Likely this is at the farm-gate. This relieves the farm of any liability in the processing, sales, or use of the product. This is especially important with CBD products as they are supplements that consumers will ingest. The farm insurance agent should be included in the conversation. Ensure that policies are up-to-date and the insurance carrier is aware of this contract and agrees with its terms. Not having the insurance carrier agree to contracts runs the risk of loss of coverage. To discover this after an incident could be catastrophic.

Confidentiality clauses are also commonly found in contracts for CBD hemp production. There are many areas where proprietary information and/or intellectual property may be utilized in this budding industry. Be sure the contract spells out what is “secret”. And the contract should reflect that the farm and permit holder have some responsibility to report to NYSDAM and possibly cooperate with a Land Grant or other University on research.



Similarly, farms may have production practices that have been honed through trial and error and to have the processor share those with other producers may not be desirable. Confidentiality applies to the contract itself as well. Terms should be held confidential. If not, who can they be shared with?

Force Majeure – A Superior Force

Most contracts have a *force majeure* clause. This translates to situation that is both unforeseeable and uncontrollable making completion of the contract impossible. Examples are war, labor strike or weather/geological events. In agriculture, some weather events are expected while others, resulting in total devastation should be considered in the contract. There, currently, is no crop insurance for hemp. The 2018 Farm Bill instructs USDA to develop a policy but that could take several years before coverage is available. What party is assuming financial risk for costs should a major weather impact production? Is it a shared costs-to-date for both parties so the farm is not bearer of all seasonal risk?

An additional force majeure risk is a regulatory one. FDA has stated that, because there is an FDA-approved drug based on CBD, interstate sales are under their purview and future oversight may become stricter. The result would mean significant risk to the future distribution of CBD products. If the FDA were to enforce interstate trade regulations and significantly impact movement, who is owner of the crop and product and the bearer of the risk? What if federal regulations were to change in October when the majority of the crop costs are already invested at farm level?

Attorneys

Recently many have arrived on the scene saying there are experts in the subject of hemp laws. However, in most cases they have specialized in medical and recreational marijuana in other states. Ask your current attorney if they are comfortable with the subject, noting that you think it is unique agricultural and legal area. If they are not comfortable, ask them to suggest an attorney to use during contract drafting and negotiation. It is probably prudent not to accept legal assistance or recommendations from those you are contracting with regardless of the expertise they bring. After a few potential experts have been located, first ensure they are admitted to the NY Bar Association and know that admission to any state Bar does not necessarily permit them to appear in federal court. If the processor's business is located outside of NY, it would be judicious to have the selected attorney also qualified to practice in that state too. Ask them to provide documentation of their work and/or recommendation from clients as to their experience.

Bottom Line

Payment for the product is usually the primary focus of a contract but, as already outlined, it is only one of the many important points that need attention.

Typically, for CBD crop, growers are paid by poundage and quality. Quality has at least two facets, one of which being CBD density and the other is lack of contaminants/residue. In the case of CBD for hemp, THC can be considered a contaminant. Percent of CBD is the primary measurement of quality that is in direct relationship to payment. A good example is \$3.50 per pound, per point of CBD.

Therefore 10% CBD crop would see for \$35/lb. Buyers may also look to include deductions for loss of quality such as contaminants. Are there bonuses for additional poundage or, more likely, high density CBD content (e.g. >12%)? As with all formulas, do the math for all potential permutations not just the typical crop in a typical year to determine if the contract provides adequate insulation from disaster. For those typical numbers you might plan on 1.0 pound of dried flower bio mass per plant from 2000 plants per acre at 10% CBD or 200lb of CBD.



Rejection of the Crop

Ensure that clauses regarding rejection or price adjustments for low quality are clear. Rejections or price adjustment language should include at least these points:

- who can reject a lot – specifically which people, their names and titles.
- for what characteristics, be specific – use numbers and industry standards, if available. There are no “USDA Grade A” standards to rely on for this crop.
- which contaminant, at what level
- determined by what test
- performed at what lab

The contract should also include a timeline for payment. CBD crops require significant up-front investment and it is wise to negotiate that the processor have some forward payments. If not, the contract should clearly state when the crop will be paid for (upon transportation off the farm/change of ownership) and by what means. Interest or penalties should also be included if payment timelines are not met. Again, it is expensive to enforce a contract in court so the contract might reflect who is responsible for those fees should enforcement be necessary.

“Skin in the Game”

It seems popular that processors formulate payments that encourage the grower to invest in the profit-making. It is not uncommon that the payment scheme includes a factor that accounts for the final value of the raw CBD extract and the market price at sale.

Of course, as in all things profit is a function of risk. The contract may be a very straight-forward pay-by-the-pound formula but it may also incorporate market price. Including market price is riskier and the producer bears more burden and may have to wait longer for payment. But maybe, payment will be relatively higher. Again, push the pencil on the options offered.

In business, return on investment is usually directly proportional to the risk carried by the investor. But we all know this is by no means a law of mathematics. This is still farming, risk is great and comes in many forms. Be skeptical and cautious.

The authors are not an attorney and do not provide legal advice. Every effort has been made to provide useful and accurate information however this information should not be relied upon in lieu of consultation with appropriate legal advisors in your own jurisdiction. It may not be current as the laws in this area change frequently.

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Authors,
Dr. Lawrence B. Smart, Professor of Horticulture, Cornell University
&
Maire Ullrich, Cornell University Cooperative Extension Orange County

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For more information,
consult
Cornell University’s hemp website:

<http://hemp.cals.cornell.edu/extension/>

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