



HEMPSEED HOLDINGS

Hemp Cultivar Creators **Ltd**



AOTEAROA1 Cultivar description plus sub cultivars

Owned by Hempseed Holdings Ltd Shareholders

Mack has already created the only five Generic Landrace approved New Zealand cultivars,

1. Aotearoa 1, 29th July 2008 and
2. A1 Monopurp 26 February 2019.
3. A1 Comseed and
4. A1 MACMono have been submitted for approved status 2020. Both approved 30 June 2020
5. A1 HCFX 22nd September 2021



Mad Mac and the Flat Ugly Snail

<https://vimeo.com/34920723> for 28 minute doco by NZ Natural History Film Unit re Macks influence on the Paua fishery; at the end right past the credits there mack is in his field of dreams in his technicolour dreamcoat ☺ Ta Kate N Bill

The desired outcomes are:

- To create better cultivar's for Aotearoa NZ ie Super Cultivars.
- For the seedstock and sub cultivars generically called Aotearoa 1 or subs to be entirely owned by Aotearoa NZ grower/farmers ie the industry via shareholding
- That future generations in say 100 years time just might recall it all commenced with ol MadMack

It is the breeders intention to finish off **A1 HCFX** 2020 2021 as it is the highest seed producer by a long way and bulk up **A1 Comseed** and **A1 MACMono** for shareholders to grow when, if they wish in conjunction with others. Hopefully if possible **A1 Monopurp** as well.

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7. Until Genetic markers SNPS (SNIPS) are available and hard contracts growing by non shareholders will not be allowed nor will cross contamination be tolerated until such time as the following is available.: SNPs (single nucleotide polymorphisms), which belong to the last-generation molecular markers, occur at high frequencies in both animal and plant genomes. The development of SNP markers allows to automatize and enhance tenfolds the effectiveness of genotype analysis. this should be a priority but may well be costly @ 30K – 50 K + The Canadian Dr Ernest Small who states Ihemp is genetically separate from MJ, has a max thc of 0.9 – 1.1% which has no psychoactive effect. If that can be proven to politicians ihemp just might get to where it belongs, ie separate from misuse of Drugs act et al, not the current nonsense.

PLEASE NOTE WELL

If you choose to become a shareholder in the Aotearoa 1 seedstock and the A1 series of subcultivars you do so under exactly the same conditions as Donald James (Mack) McIntosh IE there is Always a risk that wee will all lose everything equally there's an expectation that at sometime in the future these cultivar's may well become the mainstay of the Aotearoa NZ ihemp industry.

DJM does not oversell the cultivars AND ALWAYS WARNS POTENTIAL SHAREHOLDERS THERES STILL MUCH WORK TO BE ACCOMPLISHED SPECIFICALLY REGARDING THE TRUE TO FORM NATURE OF THE 4 A1 SUB CULTIVARS.

Irrespective at times humans are likely to only hear what they desire too. Only relatively small amounts of the 4 new approved A1 series of subcultivars are fully homogenized. That work is ongoing.

All the required background is in here somewhere. 😊

**Associate Professor
John Mcpartland
Massey Uni
Fruits Crops Unit
Co Author
Hemp Pests and Diseases et al.**



Aotearoa1 and subs: The IP is entirely owned by Hempseed Holdings Ltd shareholders and will not be shared here as this is a public domain document

AOTEAROA 1 is the Base breeders selection all other A1 cultivars arise from.

During the 2001 – 2002 Trials the author creator of the A1 seedbank noted all the cultivars imported were in the main quite crappy, further enhanced by a further 3 years observing. It became clear that a generic Aotearoa NZ cultivar breeding programme creating something, entirely unique and new was necessary; and so the journey began. Aotearoa1q and subs are an entirely different strain and unrelated to all other cultivar's currently available in Aotearoa NZ.

During a hideous divorce (is there any other kind?) app 2003 – 2005 Mack tried to sell or give away. No one wanted it 😊

The finally approved Aotearoa1 has little in common with the original except the thc profile and took a long time getting too. A1 Monopurp took even longer as the author continued to “learn”

These days the author is confident seeking certain traits etc and the process is much swifter although still costly. Aotearoa 1 and all sub cultivars denoted by the prefix A1 are currently **SUPER CULTIVARS. But of course the author would say that.** 😊

There is no hard sell; shareholder's make up their own minds whether 😊 they are indeed Kiwis and support locally created or if they prefer to rely on imports created and owned offshore 😊 and of course they take exactly the same risks as the original creator. There is of course a 1 off initial cost and a requirement to only supply to shareholders for sowing purposes et al. Its exciting. Finally. The author thinks but does not know for certain HSHL is the only one doing this.



AOTEAROA 1

AOTEAROA1

Cultivar Characteristics

***Cannabis Sativa* – approved 31 July 2006**

Dioecious Seed Fiber production.

Great seed producer.

Aotearoa1 is the base seedstock for all subsequent cultivar's

It is a better than average cultivar in the breeders view

However it shows more variation than all other A1 cultivars.



NB: The colours of plant leaves in the image are actually 3-4 levels deeper green than the image shows. The height is an optical illusion. Density 40pm²

2005 2 9

NB only Aotearoa1 is available in commercial quantities until 2022

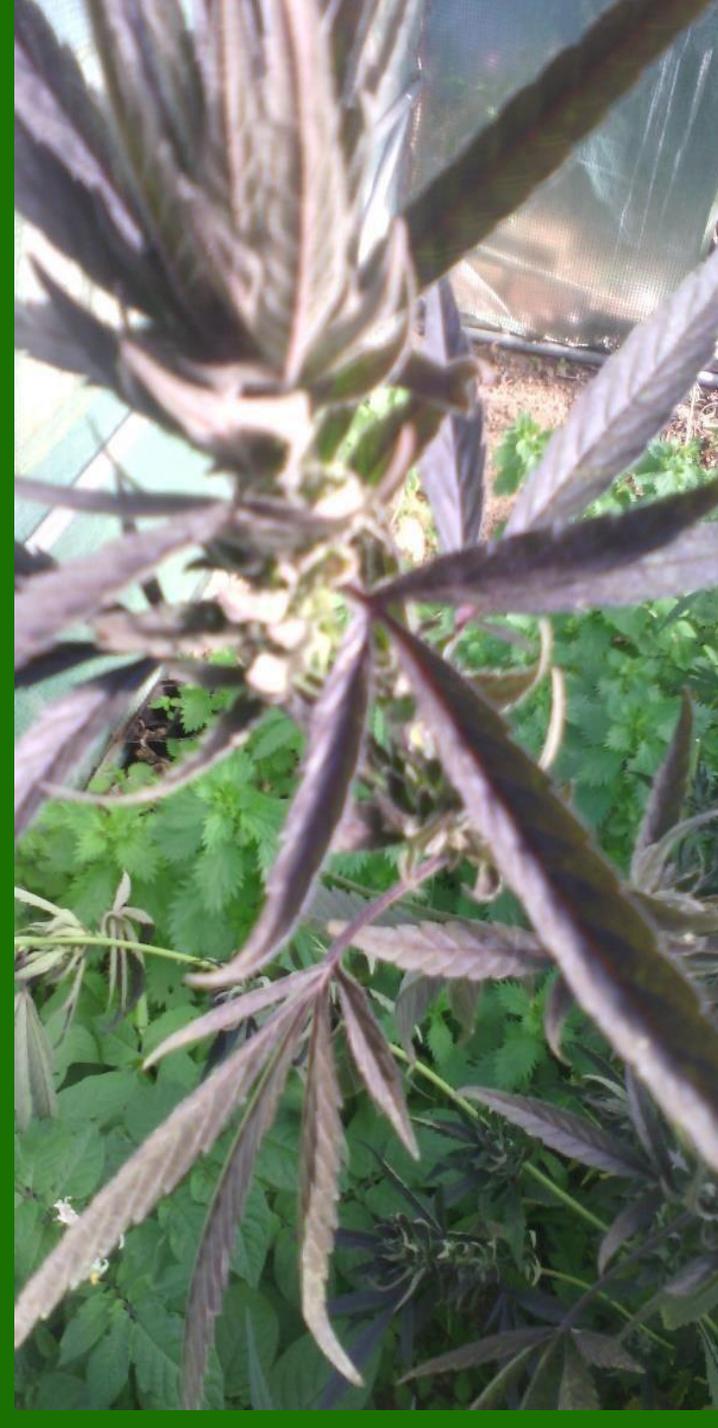
Smaller quantities of all the others are available but if crossed with for instance A1 simply a backward step. If you have an RB licence and grew separately you could evaluate some of the others. A1MACMono & A1Comseed are approved but can be supplied to shareholders by negotiation.



2005 2 25



2005 2 25



A1MONOPURP

A1 Monopurp
approved 26
February 2019

Mildly Monoecious very
hardy
Good seeds but not
volumous
Probably only useful for
specific outcome sought ie
specific stearidonic acid oil
profile et al.



Cannabis Sativa Dioecious mildly Monoecious. Goes purple and eventually black late in the growth cycle. This latter is a minor issue as in dioecious state by the time the males identify themselves as A1 Monopurp its too late that season if some aren't; but good re pollen collection for the next growth cycle. Still needs work to homogenise in large commercial quantities.

AOTEAROA1 Subcultivar A1 Monopurp. Approved.
Cultivar Characteristics

Cannabis Sativa – Dioecious/mildly Monoecious

le A1 as its derived in whole from Aotearoa1

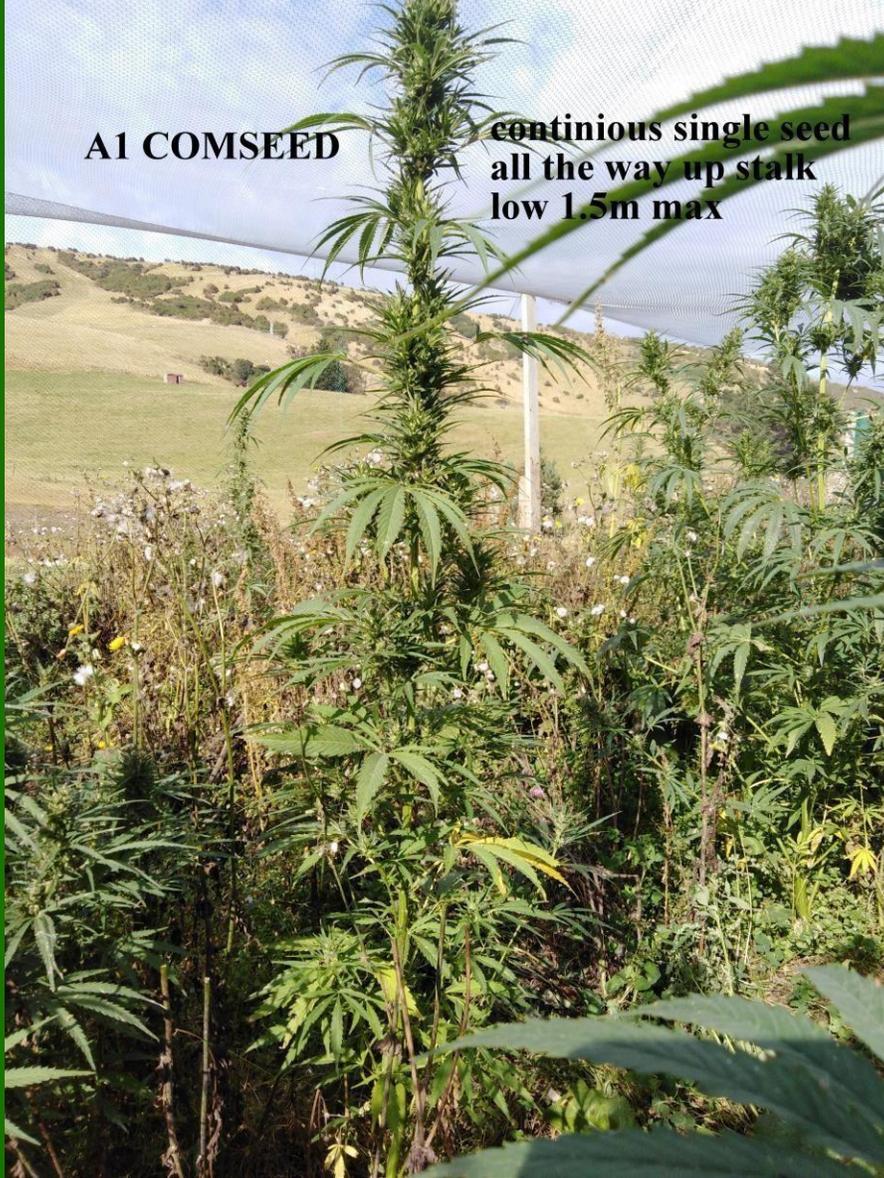
Mono as its mildly Monoecious only about two male flower heads smallish per plant. Purp as it goes deep purple to black throughout the growing season.

Very hardy and disease resistant.

Breeder likely spent way to much time on this one because “he liked its look 😊”

A1 COMSEED

**continious single seed
all the way up stalk
low 1.5m max**



Cannabis Sativa – Dioecious A1

COMSEED ie Commercial seedstock for broad acre farmers.

Seed - Fibre production

Suitable for traditional Broad acre Farmers

Breeder has not grown in broad acre context however it should be very useful in that it has one stalk only, low ie 1.2 m – 1.5 m at ie 20 – 40 ppms, breeders location very heavy seeder

Ideal for broad acre seed farming.

A1 MACMono approved 30 June 2020

This is a Christmas tree shaped cultivar with a large number of heavily seeded seed heads'. The seeds produced are all females which means it's a very stable subcultivar; plus this subcultivar is heavily monoecious with male flowers interwoven with the seed heads meaning there's incredible fertilization and good seed productivity.

Stature

Tall plant stature, (2m at my location @ Tawanui with a large, compact tightly seeded seed heads, and many of them.) This plant is what I've been working toward and hugely satisfying to see in full growth.

Uses seed oil with a wide spectrum of essential amino acids and fatty acids, making it suitable for many cosmetic products. Farmers are harvesting seed and then recovering fibre so both seed, oil and fibre but focusing on seeds in the first instance.

Growing parameters

Grows to max height @ Tawanui of 2 + m fortitude to grow at 45 degrees latitude. Given they're all subcultivars of Aotearoa1 they should grow well and consistently throughout most of New Zealand



Cannabis Sativa – Highly
MONOECIOUS

A1 MACMono ie

Commercial seedstock for broad
acre farmers and market Garden
regime of cultivation. *Seed -
Fibre Oil production*

Suitable for traditional Broad acre
Farmers but specifically suitable for
Market Garden Regime of
production.

High seed yielding multi-branched
**Very useful due to plant uniformity
re stalk fiber farming /cultivation.**



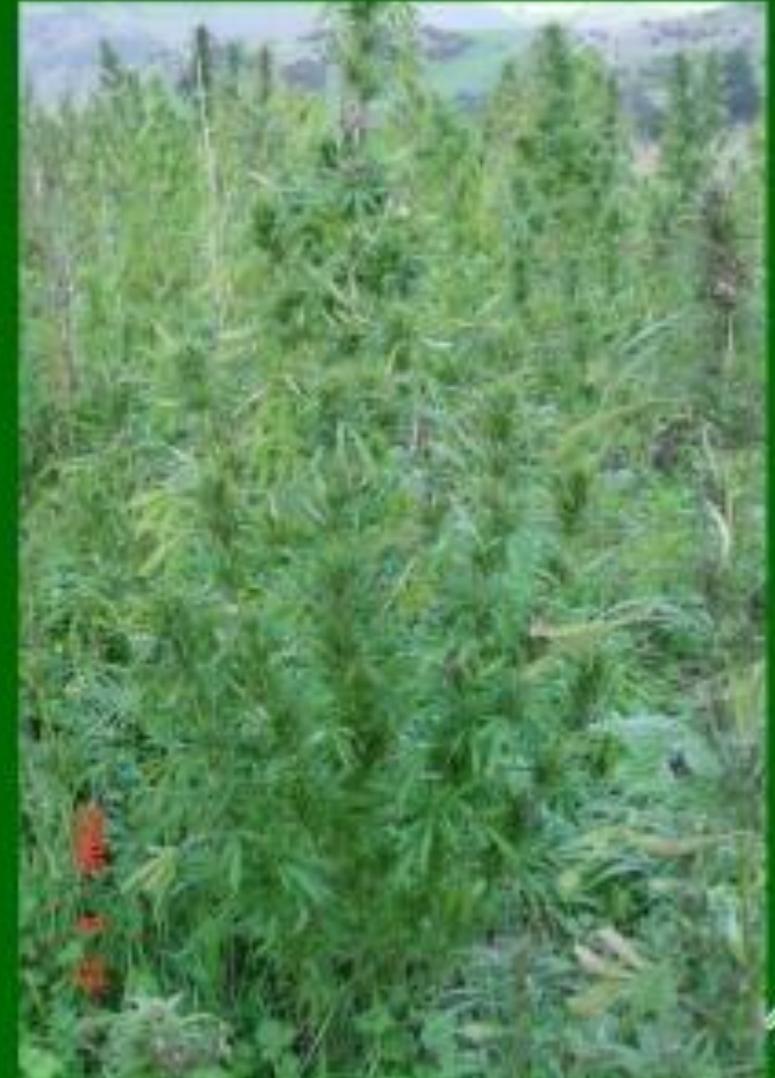
A1 MACMono
Almost as good
as HCFX, but,
not quite 😊

AOTEAROA1 SEED BREEDING LINES

A1HCFX

A1 HCFX the A1 super cultivar height stated relates to 46.28 South branches = average but as the cultivars has been developed opted for less branches heavier seed weight should easily produce 1 kg of seed If fed humic acid et al.

- Large multi-branched heavy seeding plant. Frost, disease, pest resistant. Goes deep green with feeding.
- Large heavy well-aerated seeds. Vigorous growth continuously creating new branches average 50 +
- Seed weight per plant is significantly above all other potential lines in MGR spacing.
- Very consistent look. Consistent 1.8 – 2+m. Up to 1kg per plant



A1 HCFX the A1 super cultivar



A1 HCFX the
A1 super
cultivar
specifically
bred for
hempseed
production.
MAGNIFICENT!





A1 HCFX the A1 super cultivar

One view re planting Industrial hemp as a CROP 2016 for the small to medium practitioner seeking high seed yields.

The Market Garden Regime pioneered by D J (mack) McIntosh

If you're new to industrial hemp and are seeking some possible guides re how to get the best results the following are some tips from my 20 years' experience re the crop. This certainly doesn't mean I have all the answers as I do not.

PREPERATION

If it is your first time in my view smaller is better, until you gain experience and see the problems you may or not face.

Put as much humic acid (rotting vegetation/sheep/horse cow poo) on as you can.

I place heaps of 200ltr drums around the crop with a few spades of poo in them filled with water months before I plant the crop to ensure plenty of bacteria.

I cannot emphasize enough just how important soil preparation is. If your soil preparation is not top of the line the subsequent crop will suffer and productivity will be well below par.

The soil MUST be a fine tilth, weed free to a depth of 15 but preferably 25 cm. Fine means fine no clods weeds or any foreign matter. I use a grubber and go over the area during the winter to kill all the grasses and weeds anytime I have spare time.

As planting time approaches I grub every few days until the soil is almost powdery. Best soil temperature re quick strike rates is 12 – 15 c.

Preplanting.

These days its quite common for prespraying to kill all the weeds. I on a smaller scale prefer to grub them out but if you have to spray do so some time before planting as most IH cultivars are incredibly spray intolerant Read they often die when exposed to sprays.

MARKET GARDEN REGIME

Planting.

As soon as I've finished grubbing I get off the tractor and commence planting. Whatever method you utilize from a hand operated Earthways seeder to an air drill set the planting depth to app 3.2 cm achieves the best results re strike rates and root structure in my experience.

If you desire really high seed yields space the plants app half a meter apart so the plant can express itself properly. You do not get tonnes of acorns off a small oak tree and ih, cultivar dependent is exactly the same. If your soil temperature is right you should start seeing sprouts at the soil surface 3-7 days. It pays to do a seed viability test of at least 100 seeds prior to planting so you can ascertain just how good your seedstock is. I have seen many crops fail due to poor soil preparation and an abundance of weeds, so give your crop the absolute best chance of success i.e. as above.

Once the seedlings are through and no weeds you can relax for several weeks to a month and just watch it grow. Remember its photoperiodic so in NZ at my latitude **Location Tawanui Altitude metres – 83 (feet) 242 Lat (DMS)46° 28' 0S Long (DMS)169° 31' 60E** planting is November any time that month to maximize the vegetative growth period i.e. it comes through and reaches for the sky until the end of January. Down here it grows well but max height is 2m, for each degree you go north add half meter re height.

Market Garden Regime

Feeding

I feed mine once a week the liquid from the barrels via bucket walking along the rows. As seed heads appear I will feed every second day. In my view you cannot feed too much humic acid ie compost tea.

I am comfortable allowing them to end up at 1pm squared.

In my location the males die end of February beginning of March but they've done their job so you can pull them if you wish.

Harvest in my location is weeks 1 and 2 April.

You can readily increase your yield double or treble by feeding during the seeding process i.e. fatter heavier seeds. You can further increase your yield by cutting app 1/3rd off the top of your female plants before the males are pollinating and no seed heads visible = up to 50% increase in seed heads.

Harvest.

Light green seeds to be seen, yellow inna birds belly, brown onna ground.

The carapace (seed cover) will still be green at harvest time but the plants bottom third leaves will be going yellow. Once the birds arrive and they will. (I cover mine with bird netting)They're telling you the seeds must be harvested in the next 3 days or there will be no seed harvest.

The largest crop I have personally grown was 1ha harvested with a CASE 600 all other crops I've hand harvested and I can tell you it's a huge job no kidding. YOU MUST HAVE A RODENT free area to store/dry further. The best way to get mouse/rat shit out is not to get it in in the first place.

Its app the same weight as light ih seeds so very difficult to remove with a seed cleaner.

I first discovered this ability to dramatically increase seed yield with Kompolti at the Fruit Crops Unit Massey Uni Palmerston North and obtained 768 gms from one well fed protected (bird netting) plant. I have been continuing yield increase's with Aotearoa1 my approved seedstock not currently commercially available shareholders only as I am currently hoping to create many superb cultivar's DJM NB of course this does not apply to broad acre conventional plantings.

YOU WANT THIS!!! DON'T YOU ?



2005 4 13

Its impossible to get a fabulous yield from a starving plant

I first started banging on re this in 2003. You simply cannot obtain a fabulous yield from a spindly non expressive starving plant, really its that simple. This in essence applies to all plants, but in this case I'm referring to lhemp. The above plants seed head is almost continuous over 800cm long that heavy with seeds its bending the stalk; the seeds eventually fat robust and high weight yielding.

The reason I feel its timely to bring this up is I keep getting referred to a Canadian site that recommends 120 plants per square meter for seed production and theres also NZ companies that recommend very high seed planting ratios from 20 plus kg pha to a phenomenal 60 kg pha. lhemp is always teaching me so assuredly I don't know everything. Equally I do know from trial and error that you only require 2 kg to plant a ha. I've planted nearly 3 acres with an air sower 700 gms ,so, this up to 60 kg in my view is nonsense. At this stage I must confirm in the 5 Minute Guide to Industrial hemp in NZ it also states this and NZHIA must address that issue. It was written in 1998 when wee in nz WERE UNABLE TO GROW lhemp; on offshore advice. Today, I at least know better.

Dependent on your seedstock and your growing regime 1kg hempseeds is anywhere from 13,000 – 98,000 seeds, so there's a wide spread there. Therefore in simple terms aiming for a kg per plant you need to aim for 13,000 – 100,000 seeds dependent per plant. Some cultivars (most) wont give you this; but you can still easily increase your yield by increasing individual seed weight by feeding humic acid ie compost tea. Most modern cultivars are in fact old cultivars given a new name with over a 100 years of bugger all RnD its no surprise in the modern context they're rubbish producers in a world seeking more for less. That said even if you have a crappy cultivar you can increase your production with a bit of work such as. Aim for no more than 40 plants per square meter, preferably only 4, myself I do 1.

Feed humic acid minimum of weekly, more as seed production occurs. It doesn't need to be much a splash a plant. The effect is dramatic. I fill my drums during the winter with sheep poo, borage, parsley and comfrey but when actually applying, you know, you need as much livestock in the ground as you stock above the ground, sheep poo will do. The reason is to get a high bacteria count. I often grow rows slightly over a meter apart with in the beginning a plant every 20 cm but the distance between rows allows the plants to express themselves and I, of course breeding, have the luxury of removing plants I do not think are what I'm seeking. Broad acre farmers probably wont or cannot do this Yet. Eventually they just may have to as poisonous applications true legacy becomes apparent, eventually they will all be replaced or banned by something more soil, animal friendly. Also by cutting out the top third of the leader before seed set will increase seed heads significantly.

Whilst this is primarily aimed at the smaller operator, there is no doubt in my mind the planting ratios apply across the board. I simply cannot comprehend why anyone (apart from praps a seed supplier) would plant at such high ratios. Yes mebbe they like the fact, like wheat you get one small seed head per plant, all at an even height, but the price they pay is a lousy return.

I say this time n time again, please start small identify and rectify issues you will have and move up a little each year. If you're a salt of the earth "normal farmer" of course much of this does not apply 😊

Finally irrespective of where you obtain your seeds always do a viability test before you plant so you know. Simply put a 100 seeds or thereabouts in a container with warm water covering and place somewhere warm. Within 24 hours you should see a lot of seeds splitting within three days most that are going to will have split; however they can take two weeks. Count the split ones this gives you your viability ie 80 split seeds = 80% viability. Hempseeds do not keep well for planting unless in a chiller or freezer, impractical for large tonnages.

Growing Industrial Hemp

Industrial hemp (Cannabis with less than 0.35% THC) is grown under a

[Ministry of health licence http://www.health.govt.nz/our-work/regulation-health-and-disability-system/medicines-control/hemp-industrial-hemp](http://www.health.govt.nz/our-work/regulation-health-and-disability-system/medicines-control/hemp-industrial-hemp)

The licence costs \$511.11 and can be renewed for up to 3 years. If you are first time licence holder you will have to have your crop tested for THC, however these days it appears for unfathomable reasons often medicines control insist in almost all doing as many thc tests as they think they can get away with

this is done by ESR in Auckland and will cost a further \$500 + gst per test. after the first year future thc tests will be at the discretion of Medicines Controlr it should be noted ESR are the most expensive and in the authors experience the least reliable vis a vis two cbd tests the results were so low and on testing at secondary labs 100's of % out. See Hill Laboratories Next Slide also way cheaper. It's the writers view that because ESR are a crown Institute and provide much evidence re court issues they really don't understand the real world business's are working in. Ie theyre really not client focused but more legally focused if that makes sense.

The “General” licence to grow Low THC, means you need to grow one of the approved varieties

https://www.health.govt.nz/system/files/documents/pages/approved_cultivars_of_industrial_hemp_v1.2.pdf The seeds must be purchased from an licenced holder and of course the A1 series should be the only GENERIC Aotearoa New Zealand Industrial Hemp LANDRACE cultivars be the only cultivars on your list 😊 . You will need to be aware of the Misuse of drugs act and Industrial hemp regulations

<https://www.legislation.govt.nz/regulation/public/2006/0163/latest/DLM389407.html> A general licence can be rolled over twice at no extra cost see Ind Hemp regs 2006 ie 3 year's a research and breeders may be issued for 3 years but not if it's the first application. **HERE IT SHOULD BE NOTED THE LEGISLATION HAS NEVER BEEN REVIEWED AND REVISED AS INTENDED SO MUCH OF THAT CURRENTLY ENFORCED IS NOT FIT FOR PURPOSE BUT APPEARS TO SUIT MOH IN ITS CONTINUATION OF DISABLING THE IHEMP INDUSTRY! After twice issuing my licences for 3 years as per the regs MC not will only issue for 1 year.**

The licences are for a specific location where the authorised activities (growing or processing) are going to occur. The location must be safe and secure. At the moment the crops should not be visible from the road and normally will need to be at least 5 km from any built up area. The licence will need to be signed by at least one responsible person, but other can work on the site.

Police have to be notified when a crop is planted, and suitable signage is required, a visitor's book should be kept to track people coming and going on site. The grower needs to complete several registers, capturing details of the cultivation, harvest and amount of seed grown. An annual return must be sent to the Ministry of Health at the end of the growing season

✓ So how does this get unblocked?

By demanding that Hemp is totally legalized as per the UN Single Treaty Convention Given the UN single Treaty Convention clearly and precisely states

- **The Convention shall not apply to the cultivation of the cannabis plant exclusively for industrial purposes (fibre and seed) or horticultural purposes and that none of foods drinks protein powders etc are illicit (article 28.3) Hempseed Holdings Ltd call on the NZ government to immediately with haste:**

Legalize ihemp immediately and totally remove from MODA and any influence whatever from MOH.

So Whats required?

- 1. Legalize ihemp immediately and totally remove from MODA and any influence whatever from MOH.**
- 2. ENSURE no dual licences promoted by NZMCC are allowed to interfere with ihemp but that it has stand alone legislation totally outside MOH MODA and allowing all revenue streams including sales OF RAW MATERIAL TO ANY COMPANY FOR ANY PURPOSE THAT'S LEGAL.**
- 3. Define it in separate legislation as legal with a thc limit not above 1%**
- 4. Ensure all contents naturally occurring are legal INCLUDING BUT NOT LIMITED TO CB'S TERPENES FLAVONOIDS**
- 5. Ensure the appropriate Ministry in fact administer its suggested MBIE because its got all required and currently lacking ie business, innovation, enterprise.**

Hemp is planted from late October and harvest until late April, planting and harvesting date depend on your location, the environment, seed variety and the type of crop you want to grow. Fibre crops can be harvested after 60-90 days and seed crops 90-120 days. Except for baleage which can be harvested after 45 days depending on what you want

Once planted the seedling will emerge in 3-6 days and begin its vegetative growth phase, at maturity the flowering tops will begin to seed and once the bracts are about 70% hard and full of seed and the seed heads are around 23% moisture the seed crop is ready for harvest. However very few determine the moisture content prior to harvest and the birds will arrive and let you know anyways. The most reliable indicator apart from birds re seed crops is the bottom 1/3rd leaves will be yellowed off.

The soil sowing depth 3-4cm and temperature are critical for a good vigorous strike rate and vegetative growth pattern. You can plant as low as 9 c but 12-15 c is far more reliable.

The crop is photoperiodic and is therefore influenced by daylight length, therefore you cannot plant after the longest day and expect to do well as it will immediately go to seed at a very small height. Therefore December is really the latest planting time in NZ and if you have a weed free fine tilth the plants will respond dramatically.

Land preparation involves creating a fine tilth in the field, the soil does not really matter; what you feed the crop does, for instance 112kg acre dap et al. The Hungarians plant seed crops in heavy peat bogs due to many factors not the least being a ph of around 7 which is perfect for ihemp The crop will take up a lot of nitrogen NPK of 150/70/20 are a guide, but specific locations require different approaches. Generally ihemp can be grown on the same land for many seasons.

NZ soils are generally somewhere in the 5.5 – 6.5 ph range which is a little low for hemp but not critical if your feeding throughout such as humic acid ie rotten liquid sheep/horse/cow poo or similar. If using artificial fertilisers once growing they all burn the leaves so extreme care when/if applying is necessary. An heavy application of lime is useful at least a year prior to planting preferably longer to sweeten the soil, bring the ph to 7 the optimum for hemp.

You can grow the crop as a bioremediator/phytoremediator to remove heavy metals such as cadmium/DDT, out of polluted soils, however disposal of such plantings remains an issue.

Birds can be a problem for seed crops, the other pests and diseases are usually minimal passion vine hopper for North island Nelson region.

The best soils have a PH of 7. flat to rolling land is best, if you can get a combine around it, it should be OK.

Planting rates seed and fibre crops the seeds are planted in rows about 15 cm apart and 3.5 cm deep., plants per meter (with modern airplanters you can use as little as 700gmz per 2 acres.)

The seeds are planted after the last frost when the soil temperature has reached... C they are drilled in to a depth of 3 cm and take 3-4 days to emerge. , if the seeds are drilled to shallow the roots might not develop to hold them in place and if they are too deep the little seed has trouble getting out of the ground and this delay could see the weeds coming up first and smothering the hemp.

In addition to not requiring many agricultural inputs, the crop does need water. Clearly irrigated lands provide the best yield, but good returns can also be made on land with no irrigation.

Male plants (which produce the best fibre) produce pollen prior to seed set on the female plants, after the males have shed their pollen they die. This low THC hemp pollen can drift over long distances and has been known to pollinate wild varieties , and reduce the potency of gorilla crops being illegally grown in the area.

Seed ripen from the bottom of the bract (seed head) and should be harvested when the birds arrive and they will; the seeds be well spread or continuous drying to a 6-7% moisture content, otherwise your grain crop will cook itself. Do not leave in the harvester whilst you have lunch as the seeds will be stuffed when you get back it happens that quickly due to the carapace composting immediately.

The crop is harvested using combines, such as a CASE 600 or modern machine. with a few modifications, the latest versions of cases and john derre harvesting equipment should be able to handle the harvest. The common problems related to the strong fibre wrapping around moving parts, ie the bottom leaves should be yellow but the stalk must not be brown = too late.. If the stalk is still greenish the stalk is still sort of soft, brown hard as. Grape harvesters have been trialled, nice clean seed but requires completely different method of planting, paddock layout that may or not become useful.

Once dry the harvested seed will need to be cleaned to 99% purity for sale to the processor/exporter

Who can harvest the crop? Any contractor provided viable seeds and the leaves do not leave the licenced property. There is an issue in that each processor of say viable seeds must have a licence.

The whole plant including the roots has a revenue stream, not all available at the time of writing. Ie medicinal denied even to sell too .

What parts of the plant are saleable, longevity and stability of the harvest product ie products like hemp drinks hemp tea etc currently quite wrongfully considered illegal by MOH The seeds themselves will keep well but are subject to weevils if kept at outside temperatures. Immediate processing into oil or hulled hempsseds is best otherwise a cooler may save you some grief. They must be stored in rodent proof areas the mice n rats will come

COMMON SENSE AND UNDERSTANDING THE PLANT ARE YOUR GREATEST ALLIES AND STRENGTHS

Rain/irrigation is essential in the first 30 days after that the plant is very hardy frost tolerant soggy soil tolerant and in the main pest resistant. This does not mean it will grow well in adverse conditions it will just sit there rootbuilding and await optimum growth conditions.

There is increasing versatility and diversity in the Aotearoa1 and A1 series of Generic Aotearoa New Zealand LANDRACE cultivars.

Certificate of Analysis: Amended

Cawthron Contract Number: 16317

Project Number: V07345
Hemp Cottage Farm Tawanui Republic
767 Catlins Valley Road
Tawanui
RD2
OWAKA 9586
Attention: Donald McIntosh

Customer Ref: Payment Received 11/12/2017 & 26/01/2018
Email Recipients: Donald McIntosh

Sample Details
Laboratory ID: V07345-1 **Sample Type:** Oil

Description: Hemp Oil

Date Received: 19/12/2017 07:45

Analysis	Result	Units	Method
Omega 3 Fatty Acids	19.0	g/100g	AOAC 963.22 OMA online
C4:0 butyric acid	<0.1	% fatty acids	AOAC 963.22 OMA online
C6:0 caproic acid	<0.1	% fatty acids	AOAC 963.22 OMA online
C8:0 caprylic acid	<0.1	% fatty acids	AOAC 963.22 OMA online
C10:0 capric acid	<0.1	% fatty acids	AOAC 963.22 OMA online
C11:0 undecanoic acid	<0.1	% fatty acids	AOAC 963.22 OMA online
C12:0 lauric acid	<0.1	% fatty acids	AOAC 963.22 OMA online
C13:0 tridecanoic acid	<0.1	% fatty acids	AOAC 963.22 OMA online
C14:0 myristic acid	<0.1	% fatty acids	AOAC 963.22 OMA online
C14:1 myristoleic acid	<0.1	% fatty acids	AOAC 963.22 OMA online
C15:0 pentadecanoic acid	<0.1	% fatty acids	AOAC 963.22 OMA online
C15:1 cis-10-pentadecanoic acid	<0.1	% fatty acids	AOAC 963.22 OMA online
C16:0 palmitic acid	6.3	% fatty acids	AOAC 963.22 OMA online
C16:1 palmitoleic acid	0.14	% fatty acids	AOAC 963.22 OMA online
C16:2n4 hexadecadlenic acid	<0.1	% fatty acids	AOAC 963.22 OMA online
C17:0 heptadecanoic acid	<0.1	% fatty acids	AOAC 963.22 OMA online
C17:1 cis-10-heptadecanoic acid	<0.1	% fatty acids	AOAC 963.22 OMA online
C18:0 stearic acid	2.4	% fatty acids	AOAC 963.22 OMA online
C18:1n7 vaccenic acid	0.98	% fatty acids	AOAC 963.22 OMA online
C18:1n9c oleic acid	13.3	% fatty acids	AOAC 963.22 OMA online
C18:1t elaidic acid	<0.1	% fatty acids	AOAC 963.22 OMA online
C18:2n6c linoleic acid	54.4	% fatty acids	AOAC 963.22 OMA online
C18:2t linolelaidic acid	<0.1	% fatty acids	AOAC 963.22 OMA online
C18:3n3 alpha linolenic acid (ALA)	18.4	% fatty acids	AOAC 963.22 OMA online
C18:3n6 gamma linolenic (GLA)	1.3	% fatty acids	AOAC 963.22 OMA online
C18:3n4 octadecatrienoic acid	<0.1	% fatty acids	AOAC 963.22 OMA online



Unless otherwise specified, all tests reported herein have been performed in accordance with the laboratory's scope of registration.



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Report Number: 699196

Project Number: V07345

V18.29

SL:F

mg/gram of sample

NO.	Type	CBC	CBD	CBDA	CBDV	CBG	CBGA	CBN	THC	THCA	THCV
1	A1	1.052	44.031	5.349	1.534	1.427	0.502	0.013	1.855	0.06	0.102
2	A1	0.651	30.508	3.992	0.198	1.309	0.375	0.01	1.313	0.04	0.081
3	A1	1.358	47.508	6.607	0.329	1.721	0.499	0.018	2.051	0.065	0.08
4	A1	1.187	46.603	5.197	1.408	1.568	0.337	0.017	1.92	0.041	0.098
5	A1	1.198	48.487	5.535	0.958	2.02	0.485	0.015	2.019	0.041	0.05
6	A1	1.421	44.99	5.143	2.011	2.011	0.43	0.019	1.679	0.04	0.122
7	A1	1.875	58.198	6.492	2.572	2.517	0.638	0.02	2.606	0.057	0.266
8	A1	1.109	39.084	4.9	0.98	0.55	0.116	0.024	1.419	0.036	0.057
9	A1	1.289	48.067	5.088	1.637	1.397	0.261	0.028	1.63	0.049	0.149

14 March 2006

Hemp Cottage Farm
64 Catlins Valley Rd
RD2
Owaka
OTAGO

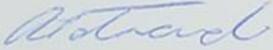
Attention: DM & DJ McIntosh

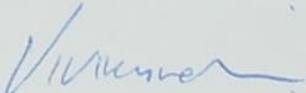
HEMP PLANT ANALYSIS

Sample Identifier	Result % THC
Sample A (samples 1-4 combined)	Less than 0.03
Sample B (samples 5-7 combined)	Less than 0.03
Sample C (samples 7-10 combined)	Less than 0.03

The level of THC in the plant samples provided are all below the limit set of 0.35% THC.

The cost of these analyses is \$300. An invoice will follow.


Authorising Scientist
Drugs


Vivienne Hassan
Case Manager
Drugs

2006 3 21



Certificate of Analysis

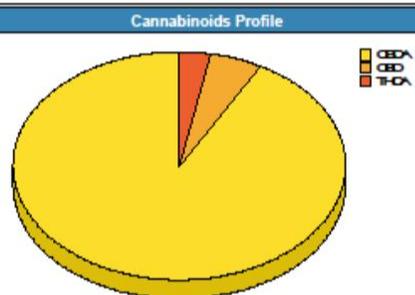
Page 1 of 2

Larrys Creek Farms Limited	Lab No:	2377524	SCP-1v1
Larrys Creek Farms Limited	Date Received:	03-Jun-2020	
by 89	Date Reported:	15-Jun-2020	
	Quote No:		
	Order No:		
	Submitted By:	Aaron Silcock	

Aotearoa 1

Larrys Creek Farms Limited
Lab Sample No: 2377524.1
Sample Type: Hemp Flower (dry)
Date Sampled: 31-May-2020
Date Received: 03-Jun-2020 10:06:26 am

Cannabinoids	g/kg	% weight
Total THC	< 2	< 0.2
Total CBD	34	3.4
Δ^9 -THC	< 1.0	< 0.10
THCA	1.2	0.12
CBD	2.0	0.20
CBDA	36.5	3.65
CBN	< 1.0	< 0.10
CBG	< 1.0	< 0.10
CBC	< 1.0	< 0.10
Δ^9 -THC	< 1.0	< 0.10



Analyst's Comments

The samples were received at the laboratory without security seals/tape applied.

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analyses. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Laboratories, 28 Duke Street, Frankton, Hamilton 3204.

Test	Method Description	Default Detection Limit	Sample No
Cannabinoid Analysis		-	1
Dry and Grind of Cannabis Related Samples	Drying and grinding of sample.	-	1
Total Potential Tetrahydrocannabinol (THC)	Calculation: Δ^9 -THC (g/kg) + THCA (g/kg) * 0.877.	2 g/kg as rcvd	1
Total Potential Cannabidiol (CBD)	Calculation: CBDA g/kg * 0.877 + CBD g/kg.	2 g/kg as rcvd	1
Δ^9 -Tetrahydrocannabinol (THC)	Solvent extraction, dilution. Analysis by LC-MS/MS. (In-house).	1.0 g/kg as rcvd	1
Δ^9 -Tetrahydrocannabinol (THC)	Solvent extraction, dilution. Analysis by LC-MS/MS. (In-house).	1.0 g/kg as rcvd	1
Tetrahydrocannabinolic acid (THCA)	Solvent extraction, dilution. Analysis by LC-MS/MS. (In-house).	1.0 g/kg as rcvd	1
Cannabidiol (CBD)	Solvent extraction, dilution. Analysis by LC-MS/MS. (In-house).	1.0 g/kg as rcvd	1



Certificate of Analysis

Page 1 of 2

Client:	Donald McIntosh	Lab No:	2556360	HTHCPV1
Contact:	Donald McIntosh 767 Catlins Valley Road RD 2 Owaka 9586	Date Received:	15-Mar-2021	
		Date Reported:	25-Mar-2021	
		Quote No:		
		Order No:		
		Client Reference:		
		Submitted By:	Donald McIntosh	

Sample Type: Hemp Flower (dry)

Sample Name:	A1 HCFX 07-Mar-2021 1:00 pm	Specified Limit	Outside Limit
Lab Number:	2556360.1		
Hemp Tetrahydrocannabinol Analysis			
Total Potential Tetrahydrocannabinol (THC)	% (w/w) dry wt 0.051 ± 0.027	0.35	No
Δ ⁹ -Tetrahydrocannabinol (THC)	% (w/w) dry wt < 0.010 ± 0.020	-	-
Δ ⁹ -Tetrahydrocannabinolic acid (THCA)	% (w/w) dry wt 0.057 ± 0.022	-	-

The Specified Limit is taken from the 'Misuse of Drugs (Industrial Hemp) Regulations 2006'. Compliance with this value has been determined using a decision rule that treats all the values as fixed, with no consideration of the Uncertainty of Measurement (UoM) of the analyses performed.

The reported uncertainty is an expanded uncertainty with a level of confidence of approximately 95 percent (i.e. two standard deviations, calculated using a coverage factor of 2). Reported uncertainties are calculated from the performance of typical matrices, and do not include variation due to sampling. For further information on uncertainty of measurement at Hill Laboratories, refer to the technical note on our website: http://www.hill-laboratories.com/files/Intro_To_UoM.pdf, or contact the laboratory.

The laboratory is required to report to Medicines Control (a division of Medsafe New Zealand) any analysis which indicates an 'Adverse Test Result', where the analysis was carried out for the purpose of testing compliance with the Misuse of Drugs (Industrial Hemp) Regulations 2006.

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analyses. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Laboratories, 28 Duke Street, Frankton, Hamilton 3204.

Test	Method Description	Default Detection Limit	Sample No
Total Potential Tetrahydrocannabinol (THC)	Calculation: THC (% w/w dwt.) + THCA (% w/w dwt.) * 0.877 Sum of the concentration of delta 9-tetrahydrocannabinol (THC) and delta 9-tetrahydrocannabinolic acid (THCA), expressed as delta 9-THC as a percentage of the dry weight of the plant. In-house.	0.015 % (w/w) dry wt	1
Δ ⁹ -Tetrahydrocannabinol (THC)	Solvent extraction, dilution. Analysis by LC-MS/MS. (In-house).	0.010 % (w/w) dry wt	1
Δ ⁹ -Tetrahydrocannabinolic acid (THCA)	Solvent extraction, dilution. Analysis by LC-MS/MS. (In-house).	0.010 % (w/w) dry wt	1



Certificate of Analysis

Page 1 of 2

Client:		Lab No:	2556366	HTHCPV1
Contact:		Date Received:	15-Mar-2021	
		Reported:	25-Mar-2021	
		Quote No:		
		Order No:		
		Client Reference:		
		Submitted By:		

Sample Type: Hemp Flower (dry)				
Sample Name:	Aotearoa 1 07-Mar-2021 2:30 pm		Specified Limit	Outside Limit
Lab Number:	2556366.1			
Hemp Tetrahydrocannabinol Analysis				
Total Potential Tetrahydrocannabinol (THC)	% (w/w) dry wt	0.064 ± 0.028	0.35	No
Δ ⁹ -Tetrahydrocannabinol (THC)	% (w/w) dry wt	< 0.010 ± 0.020	-	-
Δ ⁸ -Tetrahydrocannabinolic acid (THCA)	% (w/w) dry wt acid	0.068 ± 0.022	-	-

The Specified Limit is taken from the 'Misuse of Drugs (Industrial Hemp) Regulations 2008'. Compliance with this value has been determined using a decision rule that treats all the values as fixed, with no consideration of the Uncertainty of Measurement (UoM) of the analyses performed.

The reported uncertainty is an expanded uncertainty with a level of confidence of approximately 95 percent (i.e. two standard deviations, calculated using a coverage factor of 2). Reported uncertainties are calculated from the performance of typical matrices, and do not include variation due to sampling. For further information on uncertainty of measurement at Hill Laboratories, refer to the technical note on our website: http://www.hill-laboratories.com/files/Intro_To_UOM.pdf, or contact the laboratory.

The laboratory is required to report to Medicines Control (a division of Medsafe New Zealand) any analysis which indicates an 'Adverse Test Result', where the analysis was carried out for the purpose of testing compliance with the Misuse of Drugs (Industrial Hemp) Regulations 2008.

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analyses. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Laboratories, 28 Duke Street, Franklin, Hamilton 3204.

Sample Type: Hemp Flower (dry)				
Test	Method Description	Default Detection Limit	Sample No	
Total Potential Tetrahydrocannabinol (THC)	Calculation: THC (% w/w dwt.) + THCA (% w/w dwt.) * 0.877 Sum of the concentration of delta 9-tetrahydrocannabinol (THC) and delta 9-tetrahydrocannabinolic acid (THCA), expressed as delta 9-THC as a percentage of the dry weight of the plant. In-house.	0.015 % (w/w) dry wt	1	
Δ ⁹ -Tetrahydrocannabinol (THC)	Solvent extraction, dilution. Analysis by LC-MS/MS. (In-house).	0.010 % (w/w) dry wt	1	
Δ ⁸ -Tetrahydrocannabinolic acid (THCA)	Solvent extraction, dilution. Analysis by LC-MS/MS. (In-house).	0.010 % (w/w) dry wt	1	



Certificate of Analysis

Page 1 of 2

Client:	Larrys Creek Farms Limited	Lab No:	2556369	HTHCPV2
Contact:	Sarah Gibson C/- Larrys Creek Farms Limited 1370 State Highway 69 RD 1 Reefton 7895	Date Received:	15-Mar-2021	
		Date Reported:	25-Mar-2021	(Amended)
		Quote No:		
		Order No:		
		Client Reference:		
		Submitted By:	Sarah Gibson	

Sample Type: Hemp Flower (dry)

Sample Name:	A1 HCFX 07-Mar-2021 2:00 pm	Specified Limit	Outside Limit
Lab Number:	2556369.1		
Hemp Tetrahydrocannabinol Analysis			
Total Potential Tetrahydrocannabinol (THC)	% (w/w) dry wt 0.038 ± 0.027	0.35	No
Δ ⁹ -Tetrahydrocannabinol (THC)	% (w/w) dry wt < 0.010 ± 0.020	-	-
Δ ⁹ -Tetrahydrocannabinolic acid (THCA)	% (w/w) dry wt 0.040 ± 0.021	-	-

The Specified Limit is taken from the 'Misuse of Drugs (Industrial Hemp) Regulations 2006'. Compliance with this value has been determined using a decision rule that treats all the values as fixed, with no consideration of the Uncertainty of Measurement (UoM) of the analyses performed.

The reported uncertainty is an expanded uncertainty with a level of confidence of approximately 95 percent (i.e. two standard deviations, calculated using a coverage factor of 2). Reported uncertainties are calculated from the performance of typical matrices, and do not include variation due to sampling. For further information on uncertainty of measurement at Hill Laboratories, refer to the technical note on our website: http://www.hill-laboratories.com/files/Intro_To_UoM.pdf, or contact the laboratory.

The laboratory is required to report to Medicines Control (a division of Medsafe New Zealand) any analysis which indicates an 'Adverse Test Result', where the analysis was carried out for the purpose of testing compliance with the Misuse of Drugs (Industrial Hemp) Regulations 2006.

Analyst's Comments

Amended Report: This certificate of analysis replaces report '2556369-HTHCPV1' issued on 25-Mar-2021 at 10:43 am. Reason for amendment: Sample name corrected.

Summary of Methods

The following table(s) give a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analyses. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Laboratories, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Hemp Flower (dry)

Test	Method Description	Default Detection Limit	Sample No
Total Potential Tetrahydrocannabinol (THC)	Calculation: THC (% w/w dwt.) + THCA (% w/w dwt.) * 0.877 Sum of the concentration of delta 9-tetrahydrocannabinol (THC) and delta 9-tetrahydrocannabinolic acid (THCA), expressed as delta 9-THC as a percentage of the dry weight of the plant. In-house.	0.015 % (w/w) dry wt	1
Δ ⁹ -Tetrahydrocannabinol (THC)	Solvent extraction, dilution. Analysis by LC-MS/MS. (In-house).	0.010 % (w/w) dry wt	1
Δ ⁹ -Tetrahydrocannabinolic acid (THCA)	Solvent extraction, dilution. Analysis by LC-MS/MS. (In-house).	0.010 % (w/w) dry wt	1

Approved Cultivar of Industrial Hemp

Pursuant to Regulation 5(1) of the Misuse of Drugs (Industrial Hemp) Regulations 2006, I, Marion McLauchlan, Team Leader Medicines Control, Sector Accountability & Funding, Ministry of Health, under delegation from the Director-General of Health, hereby approve the cultivar of industrial hemp described below for the purposes of that Regulation:

Aotearoa 1

Dated at Wellington this 29th day of July 2008.

MARION McLAUHLAN, Team Leader Medicines Control, Sector Accountability & Funding, Ministry of Health.

go5518

Approved Cultivars of Industrial Hemp

Acting pursuant to Regulation 5(1) of the Misuse of Drugs (Industrial Hemp) Regulations 2006, I, Michael Haynes, Manager, Medicines Control, Medsafe, Ministry of Health, acting under delegation from the Director-General of Health, hereby approve the cultivars of industrial hemp described below, for the purposes of that Regulation:

A1 Monopurp

Sirius

Dated at Wellington this 14th day of February 2019.

MICHAEL HAYNES, Manager, Medicines Control, Medsafe, Ministry of Health.

2019-g0897

26-02-2019 11:43



Approved Cultivar of Industrial Hemp

Issued pursuant to the Misuse of Drugs (Industrial Hemp) Regulations 2006

Approval No: **RI6640003-00**

Acting pursuant to regulation 5(1) of the Misuse of Drugs (Industrial Hemp) Regulations 2006, I, Michael Haynes, Manager, Medicines Control, Medsafe, Ministry of Health, acting under delegation from the Director-General of Health, hereby approve the cultivar of industrial hemp described below, for the purposes of that regulation.

A1 MACMONO

Date of Approval: 30 June 2020

Michael Haynes
Manager Medicines Control, Medsafe
Ministry of Health



Approved Cultivar of Industrial Hemp

Issued pursuant to the Misuse of Drugs (Industrial Hemp) Regulations 2006

Approval No: **RI6640002-00**

Acting pursuant to regulation 5(1) of the Misuse of Drugs (Industrial Hemp) Regulations 2006, I, Michael Haynes, Manager, Medicines Control, Medsafe, Ministry of Health, acting under delegation from the Director-General of Health, hereby approve the cultivar of industrial hemp described below, for the purposes of that regulation.

A1 COMSEED

Date of Approval: 30 June 2020

Michael Haynes
Manager Medicines Control, Medsafe
Ministry of Health



Approved Cultivar of Industrial Hemp

Issued pursuant to the Misuse of Drugs (Industrial Hemp) Regulations 2006

Approval No: **RI8970002-00**

Acting pursuant to regulation 5(1) of the Misuse of Drugs (Industrial Hemp) Regulations 2006, I, Michael Haynes, Manager, Medicines Control, Medsafe, Ministry of Health, acting under delegation from the Director-General of Health, hereby approve the cultivar of industrial hemp described below, for the purposes of that regulation.

A1 HCFX

Date of Approval: 22 September 2021

Michael Haynes
Manager Medicines Control, Medsafe
Ministry of Health

Approved Cultivars of Industrial Hemp

Version 1.3 (1 October 2021)

This document lists the cultivars of industrial hemp approved pursuant to regulation 5(1) of the Misuse of Drugs (Industrial Hemp) Regulations 2006.

Approved Cultivar	Date Approved	Link to Published <i>New Zealand Gazette</i> Notice
A1 COMSEED	30 June 2020	https://gazette.govt.nz/notice/id/2020-go2915
A1 HCFX	22 September 2021	https://gazette.govt.nz/notice/id/2021-go4157
A1 MACMONO	30 June 2020	https://gazette.govt.nz/notice/id/2020-go2915
A1 Monopurp	26 February 2019	https://gazette.govt.nz/notice/id/2019-go897
Anka	7 September 2006	https://gazette.govt.nz/notice/id/2006-go6107
Aotearoa 1	31 July 2008	https://gazette.govt.nz/notice/id/2008-go5518
Canda	31 July 2020	https://gazette.govt.nz/notice/id/2020-go3545
CFX-1	19 November 2014	https://gazette.govt.nz/notice/id/2014-go7220
CFX-2	19 November 2014	https://gazette.govt.nz/notice/id/2014-go7220
CRS-1	19 November 2014	https://gazette.govt.nz/notice/id/2014-go7220
Fasamo	7 September 2006	https://gazette.govt.nz/notice/id/2006-go6107
Fedora 17	25 March 2010	https://gazette.govt.nz/notice/id/2010-go2217
Ferimon 12	15 October 2009	https://gazette.govt.nz/notice/id/2009-go8390
Finola	7 September 2006	https://gazette.govt.nz/notice/id/2006-go6107
Futura 75	19 November 2014	https://gazette.govt.nz/notice/id/2014-go7220
Joey	31 July 2020	https://gazette.govt.nz/notice/id/2020-go3545
Katani	26 October 2018	https://gazette.govt.nz/notice/id/2018-go5507
Kompolti	7 September 2006	https://gazette.govt.nz/notice/id/2006-go6107
Sirius	26 February 2019	https://gazette.govt.nz/notice/id/2019-go897
USO 31	7 September 2006	https://gazette.govt.nz/notice/id/2006-go6107

UP TO DATE



FREQUENTLY ASKED QUESTIONS re AOTEAROA 1 AND THE A1 Subcultivars.

1. How do I become an Aotearoa1 GROWER.
Become a shareholder is the only way. 10,000 shares minimum no further MEDCAN or corporate's they could if desired purchase a licence to evaluate.
2. How many are currently growing Aotearoa1 ?
currently 12 shareholders throughout the South island. (18 SHAREHOLDERS IN TOTAL CURRENTLY)
3. How Many Cultivars are available?
 - a. **Currently the main one is Aotearoa 1. There are others approved A1 Monopurp A1MACMono A1 Comseed and A1 HCFX.**
4. Why is mainly only Aotearoa1 currently grown?
 - a. **Because it was the first identified and approved in 2008 HSHL has seen many non true to form cultivars and will only provide its approved sub cultivars (all but Aotearoa1 which is all 5) to shareholders and totally true to form at this time.**
5. Why would I grow Aotearoa1
Because it is a totally acclimatized generic New Zealand cultivar that in normal growing conditions should return you significantly more in the way of seeds than any other cultivar grow in New Zealand
6. Does it grow in the North Island?
Yes its been grown successfully as far north as Kiatia The originals were first propagated near Napier.
7. What are the Aotearoa1 Genetics?
Significantly different and separated from anything currently or likely to be grown in Aotearoa New Zealand and without A1 they would now be lost forever.
8. Will other cultivars become available of the A1 series?
Yes as bulked up and maintaining HSHL standards re purity. HSHL has no faith re seed certification and would like to see genetic sequencing or DNA profiling become the norm accepted standard.
9. What is the consistency re THC testing.?
Aotearoa1 and the A1 series of sub cultivars have been very low and very consistent. Twice the thc test results have risen never above 0.4 however on the first occasion permission was sought to cross with a Chinese cultivar, refused , the second with Kompolti also refused; however despite assurance's otherwise its believed but unprovable by the breeder that these crosses occurred and or mixing the samples to specifically lower the Chinese's cultivars thc profile, was the cause.



HEMPSEED HOLDINGS

Cultivar Creators since 2004.

Ltd

10. Is the the testing regime fair and allowing the industry to develop?

Certainly not. Dr Ernest Small the Canadian that came up with the 0.3% widely utilised admits twas an arbitrary number for differentiation purposes only and that no psychoactive effect can be obtained under 0.9% therefore lets seek exactly that !

11. Why does Aotearoa1 and the A1 subcultivars exist.?

Because mack imported many of the trial seeds and noted very early on that most were kinda crappy. The current cultivars are the result of long and dedicated work to achieve and bear little resemblance to the “originals” incredibly time consuming. Attention to detail and ensuring no cross contamination is of the utmost importance.

12. So Can I cross it or grow it with another cultivar.

Absolutely not. All issues experienced have been caused by someone’s desire to cross. Its possible in the future this may be considered but due to events right now absolutely no growing alongside other cultivars.

13. Why don’t you allow your cultivar to participate in group cultivar studies et al.

Because its impossible to rely on folks assurances no matter how passionate. One customs agent told me he grew some of our early imported seeds in the backyard “because he was curious” therefore no one including me is trustworthy are they. BTW ive got heaps more example’s like that where folks are swearing on their sweet grannies life etc only to find “unreliable!”

14. Why does Aotearoa1 and the A1 subcultivars exist.?

Because Mack had contacts that assisted him; Asst Prof John being the main one. Plus no one else was prepared to put in the development time required ie Mack has lived in the crop for many years.

15. Does Aotearoa 1 have a trademark?

Yes “Aotearoa1 (NZ Industrial Hemp Cultivar)TM”

16. Why aren’t you more open re origins etc.?

Because the forces of dark apparently are ever present and that much work has been done and ongoing that some are in fact trade secrets sorry. Ie some try to dispossess us of our IP. It has over the years cost millions to get to here with much further work required.

17. What are the fertilizer requirements?

This is kinda like asking how long is a piece of string. In Macks view you can’t overfeed humic acid or 112 kg DAP per ha; this requires more cost benefit ratio analysis.

18. What do growers/farmers do with produce:

Many manufacture their own Hempseed oil or hulled hempseeds cosmetics skincare products. Increasingly folk are keen on producing with fibre from carpet underlay to bio plastics. You have to currently have a product in mind theres not much in the way of purchasers of raw materials, therefore right now its essential to have a plan from paddock to plate and or



HEMPSEED HOLDINGS

Cultivar Creators since 2004.

Ltd

consumer. There are currently little or no credible farm gate purchasers. .
Phytoremediation or bioremediation will develop over time with any cultivar

19. When was Medical cannabis first sought re Industrial hemp as a revenue stream?

Immediately ie 1998. Mack presented to the select committee re cannabis n health 2001 and had the committee in tears as he described his wifes cancer and nurses advice re cannabis. Advised by the ihemp hero Phillida Bunckle achieved going to occur under licences similar to ihemp. Govt changed, appears to have gotten lost and all we ended up with was Sativex.

20. Are there other products currently either not legal or undeveloped re ihemp.

Yes there's heaps such as hemp tea, hemp pollen, Hemp drinks etc made from leaf and seed heads. (You can even extract from the stalk an invigorating Health Drink) Disposable edible fast food containers the list is as big as ones imagination ie anything that can be made from hydro carbons can be made from carbohydrates.

21. So what the holdup what's stopping I hemp talking off?

Mainly lack of government support total government failure to recognize the huge economic opportunity and downright ministerial and bureaucratic stupidity; it has not been assisted by the capitalistic gold rush re Medical Cannabis?

22. So what the holdup what's stopping I hemp talking off?

MODA Misuse Of Drugs Act, Peter Dunne against advice moving CBD into the Medicines Act with apparent collusion from MOH who stated when setting the 75mg cbd in hemp food :to ensure no therapeutic affect" with no clue nor science to back up the ridiculous claim. MOH even require you to have a licence to possess ihemp roots yet no one in the history of the world has ever been busted fer ihemp or mj roots ever!

23. So how does this get unblocked?

By demanding that Ihemp is totally legalized as per the UN Single Treaty Convention Given the UN single Treaty Convention clearly and precisely states

- The Convention shall not apply to the cultivation of the cannabis plant exclusively for industrial purposes (fibre and seed) or horticultural purposes and that none of foods drinks protein powders etc are illicit (article 28.3) Hempseed Holdings Ltd call on the NZ government to immediately with haste:**

24. Legalize ihemp immediately and totally remove from MODA and any influence whatever from MOH.

So Whats required?

1. Legalize ihemp immediately and totally remove from MODA and any influence whatever from MOH.
2. ENSURE no dual licences promoted by NZMCC are allowed to interfere with ihemp but that it has stand alone legislation totally outside MOH MODA and allowing all revenue streams including sales OF RAW MATERIAL TO ANY COMPANY FOR ANY PURPOSE THAT'S LEGAL.
3. Define it in separate legislation as legal with a thc limit not above 1%
4. Ensure all contents naturally occurring are legal INCLUDING BUT NOT LIMITED TO CB'S TERPENES FLAVONOIDS
5. Ensure the appropriate Ministry in fact administer its suggested MBIE because its got all required and currently lacking ie business, innovation, enterprise.
6. Ensure there's an investigation into the easily demonstrable misrepresentations made by MEDSAFE/MC/IHLA MOH and the disabling effect its had on the development of the industry.