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**HOUSE OF ASSEMBLY STANDING COMMITTEE ON ENVIRONMENT,  
RESOURCES AND DEVELOPMENT MET IN COMMITTEE ROOM 2,  
PARLIAMENT HOUSE, HOBART ON TUESDAY 10 JULY 2012.**

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### **INQUIRY INTO THE TASMANIAN HEMP INDUSTRY**

**Mr FRITS HARMSSEN AND Mrs PATSY HARMSSEN**, TASMANIAN HEMP COMPANY, WERE CALLED, MADE THE STATUTORY DECLARATION AND WERE EXAMINED.

**CHAIR** (Mr Best) - Frits and Patsy, we appreciate your attendance here today. We are very pleased to receive your evidence. I trust you had a chance to read the guide about providing evidence. I don't expect there will be anything that could be remotely defamatory but whatever you say in here is protected by parliamentary privilege, but not if you were to repeat it outside it. If there is something that is confidential, you can seek permission to go into camera, in which case I would have to clear the room for whatever evidence you want to provide there.

**Ms HARMSSEN** - Frits and I started a very long time ago pioneering classes for hemp trials in Tasmania - in 1990. Initially I submitted a pulp mill expression of interest and that's how we began in 1989, using fibre hemp instead of the northern timber reserve. That was taken up by the government, believe it or not. First of all we had a workshop with the Labor Party in 1990 and then one with the Liberal Party in 1991. Both of the working parties, which had representatives from various departments within government, came to the conclusion that, except for the wood fibre, they thought a hemp industry could have a very good future with a niche industry starting with oil. That was those very early meetings.

We then had licences from 1990 onwards. I had a bit of a nasty accident and that slowed us down a bit, but it is pleasing to see the hemp industry is still going in Tasmania. We began right from the beginning in collaboration with other people within Australia, giving advice and suggestions. I think for a future in Tasmania we still need to collaborate with a more general hemp industry that is Australian-based, for representatives of various industries based on hemp. I believe that one is in formation at the moment. If we are going to present a good case to the authorities, such as Food Standards Australia New Zealand, we need a united front. I mentioned in the submission that because we have had that as a stumbling block, because we began in Tassie it seems a shame to not keep up the impetus, maybe doing what New Zealand did - which was stepping aside from FSANZ. Perhaps Tasmania should go it alone and have our own food standards to overcome that hurdle. That is just a suggestion but I took it seriously because of all the hold-ups we have had.

We can base different food regulations on any of the western countries that happily grow and produce hemp seed food and hemp seed oil, like Canada. They have very good regulations. England must have good ones. *River Cottage* recently had a small operation, which obviously English people are allowed to do on their own properties, growing and producing their own hemp seed food. That was quite an eye-opener.

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Obviously they would probably need a licence for that but Frits and I would like to see the possibility not just for larger industries with hemp, which of course is possible to do, but especially for things like oil where high quality is so important. It is important to allow people and small companies to have cottage industries that are smaller and high quality. That is what Frits and I aimed at when we imported our hemp seed oil expeller in 2008.

**Mr HARMSSEN** - It seems such a shame that we have come a couple of times very close to allowing it by ANZFA, as it was then called, deciding that there was no danger to the public to allow hemp seed oil on the market. On both occasions it was turned down by, I believe, the health department, although it was shown that there was no psycho-active ingredient in the oil. For us now to be 20-odd years later and not having progressed beyond what we first encountered is a real shame. I hope the committee will look a little more favourably, knowing that we have grown hemp seed in Tasmania for so many years without any terrible things happening like [inaudible], which was, of course, first considered a real problem with growing a hemp crop. The cool climate helps to produce good seed crops.

The other thing I would like to add is if the committee can look at not having so many hurdles. For example, the seed crops have to be tested on a few occasions throughout the growing season, which is a real impost to anybody who is growing it, who is handling the seed, by the sheer organization of it but also certainly financially it is a big impost.

**Mr ROCKLIFF** - Who undertakes that testing?

**Mr HARMSSEN** - As far as I know it is tested on the mainland. It used to be tested in Tasmania.

**Mr ROCKLIFF** - And that is overseen by some sort of regulatory authority to check out that it is the right level?

**Mr HARMSSEN** - I would say the health department is still behind that.

**Mr ROCKLIFF** - In Tasmania?

**Mr HARMSSEN** - That probably will come out later but it is something that is still holding the whole program -

**Mr STURGES** - An impediment to the business.

**Mr ROCKLIFF** - A financial impost.

**Mr HARMSSEN** - Yes, that's right.

**Mr ROCKLIFF** - Thanks, Patsy and Frits, for your submission and your long-standing interest in the hemp industry. I sense some frustration, given it is 20 years on since you started. Both major parties, and no doubt the Greens as well, are at the point where we are trying to map out a pathway to move the industry forward and get rid of some of these regulatory hurdles which are in the way and preventing a very good industry.

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I was interested in the quality aspect of the oil. I haven't seen the *River Cottage* program. Frits mentioned climatic conditions: do you think Tasmania could have a distinct marketing advantage in respect of our clean, green brand et cetera for hempseed oil? Do you think Tasmania could have a distinct differentiation as opposed to other parts of Australia or the world?

**Ms HARMSSEN** - Definitely. Also, organic certification is something that we wanted to have. That, I don't believe, has been fully established anywhere else yet.

**Mr ROCKLIFF** - I noticed in your submission that it requires quite low inputs. You mentioned low NPK and tried some herbicides but they didn't have any noticeable increase in productivity, so I would think it wouldn't be too hard to get organic certification.

**Ms HARMSSEN** - No. There is also a saving of not having to use all those chemicals, which is quite a bonus.

**Mr STURGES** - You said that the organic certification process has come to some kind of a halt. Can you give me a bit of history on that? I do apologise as I am a novice to this area and I found the reading very interesting.

**Ms HARMSSEN** - There are various of them, under different names, throughout Australia. We didn't go into that aspect, really. We've been fighting the food standards one.

**Mr STURGES** - Sorry, I thought you had commenced that process and it stopped.

**Mr HARMSSEN** - Unfortunately we couldn't take it in that direction.

**Mr ROCKLIFF** - I was interested in your comment regarding New Zealand stepping outside the FSANZ process -

**Ms HARMSSEN** - Even though they were part of it.

**Mr ROCKLIFF** - Yes.

**Ms HARMSSEN** - That was for hempseed oil.

**Mr ROCKLIFF** - Hempseed oil alone?

**Ms HARMSSEN** - In 2002. Yes.

**Mr ROCKLIFF** - There was some degree of success, obviously?

**Ms HARMSSEN** - Yes, and they are even exporting it to Australia.

**Mr ROCKLIFF** - I'm wondering whether Tasmania, as a state, as opposed to New Zealand, could actually step outside of the process - as a state. Would you have any knowledge on the possibility of that or any impediments to it?

**Ms HARMSSEN** - No but I think it would be an interesting challenge.

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**Mr HARMSSEN** - That is not in our hands; it is more in your hands.

**Mr STURGES** - Yes, that's right.

**Mr ROCKLIFF** - The reason for these stumbling blocks - you mentioned the health department a couple of times. Is that a matter of perception rather than reality and how would you overcome that?

**Ms HARMSSEN** - It's mainly the federal ministerial council and it's purely to do with image. I think in Tasmania we've overcome this image problem. For the secretary of the ministerial council in Canberra, after FSANZ and ANZFA have said there is absolutely no danger to human health, to come out and say it's a matter of image is really quite silly.

**Mr ROCKLIFF** - So that would need to be counteracted.

The key thing is obviously the markets. If we go through the whole process and everything is sorted out, then the key thing is to make sure it's a viable commercial entity for farmers, processors and the like. Hemp, to my understanding, has a massive wide range of potential uses.

**Ms HARMSSEN** - Yes.

**Mr ROCKLIFF** - You've identified oil and seed production. Are they the main ones? Where do you think Tasmania can really find its best market advantages, given the array of potential uses?

**Ms HARMSSEN** - Any uses from fibre because the temperate climate is best for fibre most of all. As in other parts of the world a maritime temperate climate has grown the best fibre. Products from fibre are almost innumerable - building materials, plastics -

**Mr STURGES** - Insulation, biomass, I was quite surprised to read that.

**Mrs HARMSSEN** - When I put in pulp mill submission I outlined all the possibilities.

**Mr HARMSSEN** - It is subject to market forces. On the ABC there was a segment where the then CEO of Australian Newsprint Mills, now Norske Skog, was quite willing and happy to experiment with some of the fibre and to use the long fibre which replaced expensive imports.

**Mr STURGES** - Would you see that we need to facilitate the production of industrial hemp, which would help the industry then grow? In other words, if we can break down those barriers and create a pathway then it would be up to the producers to determine whether they are going to go into that area or not. I see that as very much the role for the committee to contemplate and subsequently make a recommendation to the parliament.

**Mrs HARMSSEN** - I agree, because all the other countries are going full steam ahead and we are the only country - for instance, with food - that does not progress.

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**Mr STURGES** - That is a reasonable proposition, then, that our role is to look at creating that pathway and removing hurdles that are currently there.

**CHAIR** - What do you think the value in dollars would be for Tasmania, a ball-park figure of how much you think the industry might be worth?

**Mr HARMSSEN** - It can be a multimillion dollar industry easily. I can quote one example of an industry that got up in Victoria - a flax seed oil business. To start with they had similar hurdles because flax seed oil was also not recognised or approved. That was a hurdle for them and they overcame that. We were in touch with those people and they pressed our first hemp seed oil. They said that they had reached their first million in production after a few years. This was 10-15 years ago. It is a family business and they are growing their own flax seed as well. They also process other nuts and kernels and things like that. So in 15 years they have grown it into a multimillion dollar industry. That is purely based on an oil that has good health properties in omega 6 and omega 3 essential fatty acids. That is an example; we can go there and do better.

**CHAIR** - As you mentioned, the oil and food aspect is out of the jurisdiction of this committee because it is a federal government issue. There is a federal inquiry on at the moment and we do not know what the outcome might be. If we put that to one side, would you still think there could be a multimillion dollar market in fibre?

**Mr HARMSSEN** - Yes.

**CHAIR** - It is quite a viable market in that regard?

**Mr HARMSSEN** - Yes, but the oil could also be used in cosmetics. In building materials, there are a variety of mixes with hemp fibre and lime and various other components, so the building industry is another big one because hemp is light. A concrete block is pretty heavy but if you use hemp fibre it becomes a lot lighter. You can saw it with a saw and you can drill straight into it. You do not have to plug it to hang your pictures. There are a lot of possibilities there.

**CHAIR** - What about the food or nutritional aspects?

**Mrs HARMSSEN** - There are detailed analyses of hemp seed oil's nutritional values, protein, vitamins, minerals. It is amazing that the federal government is now trying to bio-engineer canola to have the qualities of omega 3 because fish stocks are depleting, when we already have plants like flax seed and hemp seed which can provide all of that. They are pouring millions through the CSIRO or another company from overseas into providing something genetically engineered from canola when they are already here. The food aspect and depletion of fish is such a vital one in the world at the moment. It is certainly something we should slot into. The omega 3 to 6 ratio from hemp is perfect for the human body and flax seed has an extremely high omega 3 value. That is what they hope for from fish. Hemp seed goes a little further because it has a better ratio.

**Mr STURGES** - Some of the reading I have undertaken has indicated concern about cross-contamination with other crops.

**Mrs HARMSSEN** - Do you mean with a higher THC crop?

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**Mr STURGES** - Yes.

**Mrs HARMSSEN** - No. It is usually the other way around that people worry about. The growers of high THC are worried about contamination.

**Mr HARMSSEN** - I think it would be doubtful that there are going to be any high THC plants near an industrial hemp crop because the activity around an industrial hemp crop would send the other people running and the distance would be too big to actually interfere from cross-pollination. Even if there is a high THC crop somewhere and there is a cross-fertilisation, the industrial hemp crop will be harvested in the normal way because people would be unaware of the fact that the bees have done their job. It would be harvested and processed as any other crop. The inside of a seed does not have any THC in it at all. The only reason you have a little bit of a reading is because of the dust that hangs on the outside of the nut.

**Ms HARMSSEN** - If it falls from the flower or the leaf.

**Mr HARMSSEN** - If it is then being pressed for oil there is no danger. If it were to affect the high THC crop, they would probably have problems selling it if there were readings that are lower than they expected.

**CHAIR** - You mentioned testing. There is a concern with the police service that if they were to pull someone up for a particular reason but then were to find commercially grown hemp, it would be quite a process for them to validate that this person has commercial hemp on them because of the testing, cost, time and so forth. Would you be able to advise the committee of other processes in, say, Canada? Is there a simple way around this or is it a big issue? No doubt the police force would tell us it is.

**Mr HARMSSEN** - It is a matter of trust, I suppose. If a commercial hemp farmer gets seed from a known safe source, you would almost not need any testing because that seed would be harvested, cleaned, dried and then go straight into the oil press. There is no danger that it may go in any other direction.

**CHAIR** - How do they manage it elsewhere?

**Mr HARMSSEN** - In France it has never been illegal and they still grow hemp; in Eastern Bloc countries - Russia, Hungary, Poland - there is no problem. People grow their hemp in a backyard plot or on large acreages and the problem doesn't arise. Here we feel it is so closely related to marijuana that we have this jittery feeling that it's something not quite right.

**Ms HARMSSEN** - Also you could get certification that you purchased low-THC hemp.

**CHAIR** - Thank you very much. Obviously this has been a passion for you over many years and the committee and the parliament is interested in progressing this matter.

**THE WITNESSES WITHDREW.**

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**Mr BRANDT TEALE** AND **Ms LISA TEALE**, HEMP AUSTRALIA PTY LTD, WERE CALLED, MADE THE STATUTORY DECLARATION AND WERE EXAMINED.

**CHAIR** - Thank you very much for appearing here today. You probably heard what I said to the last witnesses but as a matter of process I have to repeat that you are protected by *Hansard* whilst you are in committee. Anything you might say outside of the committee though is not. If there is any commercial-in-confidence information that you would like to share with us that you prefer not to be made public we can go into camera if you want to initiate that. You just need to advise me as Chair.

**Mr TEALE** - I do have a prepared opening statement and am quite happy to give you copies of it afterwards if you wish.

Thank you, Mr Chairman and committee members, for the opportunity to address you. Even though it is a prepared statement I will try to be as relaxed about it.

**CHAIR** - That's fine.

**Mr TEALE** - Lisa and I have had a lengthy and in depth involvement with the industrial hemp industry and have considerable awareness through our umbrella companies of what is happening interstate and overseas. This opening statement will show, I believe, that Tasmania's laws on the cultivation of industrial hemp are in breach of the United Nations single convention on drugs, and that the State Government is poorly advised on the fledgling industry's present status and market demand.

I will try to keep this statement brief, but I hope it goes a long way to answering some of the questions you may be wanting to put to me later on. So please bear with me on this one because I hope the committee's enquiries focus on looking forward and not are pre-occupied with problems of the past.

Having said that, our involvement, Lisa and myself, was firstly to do with encouraging and then actively forming a hemp industry as such back in 1998 and the 14 years since then have been met with quite a lot of bureaucratic incompetence. I know it is a strong statement but I would firmly stand by that.

**Mr STURGES** - Can I just say, Chair, this is your opportunity to tell us what you think. I think it is very important and I am quite serious when I say that. I want to hear from people in the industry just what you think in relation to problems that you have experienced and where we can go forward. Sorry, Chair, for cutting across.

**Mr TEALE** - Thank you, Mr Sturges. An example of that will be when Sanitarium's product manager phoned me at home one night wondering why the heck the Department of Primary Industries' field officer had contacted him at work with doubts about the authenticity of Sanitarium's interest in food grade hemp being sourced from Tasmania - I mean, really embarrassing stuff. And occurred as recently as this year when former ministerial adviser and now DPIWE's industry analyst, Cheryle Hislop, who is in the room, contacted media, I have been told, that had been reporting on hemp to tell them - and please forgive me if I paraphrase - what is the point of reporting about a hemp industry when nothing is happening.

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Maybe I am over simplifying that but that is what is coming back to me through the media which makes me think the government advisers, or maybe Ms Hislop, is unaware of the tonnages of both seed and fibre that Lisa and I have had produced in Tasmania under trial and pre-commercial operations with most of it already earning export income for Tasmania. We are happy to state these tonnage figures to the committee this morning. We have them here with us.

Our list of clients is a matter of commercial-in-confidence but I will say that it has included the New South Wales' Department of Fisheries Carp Taskforce - I wonder if our own fisheries minister is aware of this.

I met adviser and analyst, Ms Hislop, by chance at a field day in February this year up north and it seemed to me that she was unaware, despite being an industry analyst, that hemp is a component of military armour now being manufactured by Environex, trading as Poly Marketing in George Town in northern Tasmania. This morning I received an e-mail from the global manager of Environex, Mike Turner -

**CHAIR** - Where is this company?

**Mr TEALE** - In George Town.

**Mr TEALE** - It used to be called SBP Industries. They were on last night's ABC news to do with incendiary devices made from plastic. I believe they say what they are doing and it is really quite amazing stuff. In Mr Turner's e-mail to me this morning, his last line was he really does see things 'as very promising for potential volume hemp demand'. This is with Environex which is a global company. If you look it up they are right around the world - they operate in South Africa and Europe. A company like that does not muck around with hemp if they don't think there are benefits, which I will outline.

**CHAIR** - So you have an e-mail from the company?

**Mr TEALE** - Yes.

**CHAIR** - Was that a private e-mail?

**Mr TEALE** - Yes.

**CHAIR** - Do you want to table it if it is private?

**Mr TEALE** - I will consider that, if I may.

**Mr STURGES** - Perhaps it may assist in your considerations if you just quote excerpts from the e-mail.

**Mr TEALE** - Okay, thank you.

Personally, we are quite disappointed that Environex has had to source hemp from Victoria for their work at George Town because none of the government departments or



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advisers really found out, or bothered to tell us or whatever, if we had an import replacement opportunity for our proudly Tasmanian company.

I have personally had several meetings in the past 14 years with the Department of State Development and ministers of relevant portfolios but no-one seemed to believe what was our realistic and potential market reach. I even sat down with David Llewellyn about three or four years ago, and we were eating hemp ice cream, which Valhalla had made under trials - it was probably five years ago. This ice cream, with varying hemp components ranging from nine to 13 per cent - some with pure hemp, some with hemp and macadamia, hemp and chocolate - Valhalla did a wonderful job - was beautiful ice cream. We even sat down in the state development offices with their senior advisers and illegally ate hemp, and it was beautiful, beautiful ice cream.

*Laughter.*

**Mr TEALE** - David Llewellyn said to me at the time, 'This is so wonderful, maybe Tasmania could go it alone', and he would consider that because at that stage the federal government had overturned the ministerial council, or vice versa.

**Ms TEALE** - At the time that they were preparing for that.

**Mr TEALE** - That's right.

**Mr ROCKLIFF** - He might like to come as a witness later on.

*Laughter.*

**Mr TEALE** - He said, 'Gee, we'd love to go it alone', but two weeks later he said that the Attorney-General had given him advice that it would not be advisable to upset Canberra along those lines.

It was quite timely that last night's ABC news interviewed Environex's global manager, Mike Turner, about his company's plastic armament's manufacturing because only about two hours beforehand I was talking with Mike on the phone about supplying him with Tasmanian hemp instead of the Victorian-sourced hemp that they are getting at the moment. I first contacted him about five years ago, and he gave me clearance last night to tell this committee today that Environex's hemp requirement is 'to provide blast and projectile amelioration in a plastic form armour; in simple terms, shrapnel proof ...' - I asked, 'Does this mean bulletproof'. He said, 'That is what we're aiming for', - '... armour made from plastic with hemp polymers being a vital ingredient'. The reason that hemp polymers are a vital ingredient is because of the molecular structure of the polymers of hemp compared with a lot of others, say, oil-based polymers - if you had fossil fuel, oil, plastic, for example. Environex's clients want a plastic that gives protection from improvised explosive devices, better known as roadside bombs.

On the ABC news last night they were unveiling a product which soldiers would aim in a gel form at a roadside bomb to disarm it. What they are talking about here is if the bomb goes off, a plastic shield or a plastic armour to protect the soldiers, to protect the equipment - it is light weight, it is grown from the farm, grown from the ground, you could have the whole country shut off with an oil source by war and yet you can still

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grow your armour from your farming. That is what Environex clients around the world are doing. I know it is not the Chinese military because their parent company is already dealing with the Chinese military.

On the matter of the plastic armour, Mike from Environex has told me this morning that at this stage they are at the research and development stage with the trials and they look extremely promising. I think last night the news was quite adamant there had been something like 20-odd Tasmanian companies being involved in armaments for military supply, and Environex is probably the biggest or one of the biggest, apart from the maritime college people.

I sat with the State Development staff a few years ago telling them there were great opportunities for hemp-based plastics because of its nuclear structure. They considered the concept a novelty at best, laughable at worst, and now the Chinese People's Republican army is using our Australian parent company as an adviser on hemp-based armaments, clothing and food rations.

I cannot say anything more about these business operations because they do not involve me, but what I can say is that the people's republican army is using Australian technology to make its food rations because the hemp-based food is extremely high in vitamin K, which is a coagulating agent. If you get a soldier shot in the field, he has a body pumped up with rations containing vitamin K, and the bleeding stops a lot sooner than it would otherwise - certainly under Australian army rations. With the Australian army's food laboratory here in Tasmania at Scottsdale, I see this as an opportunity going begging.

On the matter of the United Nations, we assert the State Government's treatment of industrial and non-drug low-THC hemp is in breach of the United Nations Single Convention on Narcotic Drugs 1961 and in breach of the 1972 Protocol amending the Single Convention of Narcotic Drugs 1961. Australia is a signatory to the convention.

Our understanding is that the state government insists on keeping with the state poisons act as the controlling legislation for industrial hemp, using the UN Convention as its reason. However, Article 28, paragraph 2 of the UN Convention specifically states:

This convention shall not apply to the cultivation of the cannabis plant exclusively for industrial purposes, fibre and seed, or horticultural purposes.

We believe the state government is further in breach of the UN Convention because Article 28, paragraph 1, states:

If the Government considers hemp to be a drug plant, and therefore under the Poisons Act, hemp cultivation controls should then come under Article 23 of the United Nations Convention re opium poppies.

This means that industrial hemp should be able to be grown wherever poppies can be grown, but that is not the case at present as our non-drug hemp cannot be grown within sight of a public road - you can grow opium right up the Midland Highway - it can't be

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grown within five kilometres of a school, and separate licences must be held at each stage of production from farming to storage to processing.

The principal of the Scottsdale High School - I spoke to him at the field day earlier this year - wants to grow industrial hemp because the school currently grows opium poppies as a cash crop. It also dovetails with a lot of their drug education programs, so there are positives to come out of this not just income for the school. It sees non-drug or low-THC hemp as being an obvious complementary crop in terms of agronomy and a good drug education tool should they wish to go down that path, but there is a big difference between the two. State laws will not allow Scottsdale High School to grow hemp but they can grow opium - just down the road from the food labs for the army.

Australia's other notable hemp cultivation states, Queensland and New South Wales, set a maximum THC level for industrial hemp crops at 1 percent but Tasmania has a maximum limit of just 0.35 per cent. This limits production and does not allow for climatic seasonal variables such as plants being stressed by drought or flood, which can create minor THC variances. I believe that Western Australia has 0.35, the same as Tassie, but they had no licence applications whatsoever. Victoria had only one. I think in Tassie we have half a dozen farmers every year as a minimum going for it; some years we have had up to nearly a dozen.

The Queensland Department of Agriculture, Fisheries and Forestry states that THC concentration above 3 per cent is needed for hemp to be deemed marijuana though it limits crops for industrial production to 1 per cent. In reality a THC concentration of at least 10 per cent is required to result in psycho-active effects. As Fritz said earlier, even in the drug version of cannabis, the seed contains no THC. The THC is purely in the green plant matter such as the leaves and the flowering heads, but not in the seed. As Fritz said quite correctly, there is the risk of some THC getting onto the outer hull or husk of the seed but that is removed in the cleaning process.

In summary, there are approximately 2 000 hemp cultivars known - 'varieties' to use common language. About 90 per cent of those 2 000 varieties do not have psycho-active levels of THC - delta-9-tetrahydrocannabinol.

I would like to urge this committee to ask the government to clarify what it considers to be the drug version of hemp - that is, Indian hemp - and what is the industrial version, given that the government appears to be blurring the definitions by including hemp in both schedules 8 and 9 of the Poisons Act which deal with substances of addiction or abuse. But industrial hemp, cannabis sativa, is specifically excluded from the United Nations convention on narcotic drugs and has no drug consequences.

We also have a concern that after nearly a decade the state government has introduced, and the upper House has passed, amendments to the Poisons Act - between this committee calling for submissions and the hearings being held, with the new definitions of hemp being stated as 'Indian hemp' - the drug hemp, not cannabis sativa which is the industrial version. A conspiracy theorist would say that this is deliberately misleading. I would prefer to think that the government has been ill advised. In summary, Tasmania is no longer at risk of missing the boat regarding a hemp industry; it is missing the boat.

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**Mr ROCKLIFF** - Brandt and Lisa, thank you for your involvement in trying to establish an industry. I am interested the market aspects. I understand the niche market opportunities for Tasmania in seed oil et cetera. My perception is that a niche market, where we can differentiate the product of Tasmania, is where it needs to be because of our relatively difficult economies of scale. But you are telling me that there is a demand for large volumes of industrial hemp. I am wondering where customers would source a product, presumably potentially cheaper to them because of the large economies of scale in broader acre areas. There are opportunities in the Midlands, as an example. Can we compete in a volume market, how can we differentiate and how can we compete given our economies of scale, which would not be as good as other areas?

**Mr TEALE** - This is a researched fact through the CSIRO. Take the muesli bar market in Australia. If hemp muesli bars were to make up 10 per cent of that market, which is a heck of a lot of muesli bars, it would only require about 500 hectares of seed to be grown. As far as Tasmania being able to supply large-scale markets from the food or even the non-food oil perspective, the volume of land required is not so huge that it is limiting.

**Mr STURGES** - So we are talking now about seed harvesting as opposed to the fibre?

**Mr TEALE** - Yes.

**Ms TEALE** - Traditionally when you grow industrial hemp you grow it for either a seed crop, a grain crop or you are growing it for fibre because you do plant it in completely different ways. If you are growing for fibre you have a lot more seeds being put into the ground so it grows closer together, you get more height because you are after fibre. With a seed crop you are putting different sowing rates into the ground so that you have more spaces, things like that.

With oil seed, Tasmania's colder climate produces a better omega and acid balance than those produced say in Queensland or New South Wales. Canada is like that. At 40 degrees latitude it has been proven that we produce better oil for the food side of the industry. We can provide a better class of oil so that is why, from an entry level, Tasmania has looked at the oil side of things. Fibre production requires different machinery, a lot more input. You are looking at mills to separate fibres and that is a very expensive process.

As you were saying before, Sanitarium were very interested in the original 2000 ANZFA application but at the same time they will come back and say yes, okay, we want 200 000 kilos of it, when can you do it. Well the economies of scale do not have that in place right now. We cannot go out and say we want 2 000 hectares planted next week and have the financial backing to be able to do that and produce the product. In the meantime we have been going through and meeting and creating markets. We have been trying to increase production in Tasmania but even for my needs - as a very small company, even though we are the biggest Australian producer of hemp seed oil - we cannot get enough seed at the moment to meet my market.

There are people on the mainland who are importing seed from Canada - tens of thousands of kilos of oil - into which I would like to make inroads because we are producing premium quality oil.

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**Mr STURGES** - What is your impediment?

**Ms TEALE** - Dollars, growing, production. We have been basically in trial and pre-trial situations and we need to get to commercial levels. To do that, we are small company, and we do not have a lot of financial backing at this stage. We have not had it to be able to pay the farmer before I can get the product. So a little bit of investment there as well. Impediments like the THC testings are costs to a farmer - and the licensing requirements. There are little things that inhibit farmers from feeling comfortable to be involved because of the stigmas with it.

**Mr TEALE** - We have exported, just in the past two or three years, 25 000 kilograms of hemp seed from Tasmania. In terms of fibre production, the Tassie-grown hemp fibre, at this stage, has only been used for garden bedding. If you walk into Clennett's Mitre 10 down south or any of the ex-Mitre 10s up north, you'll buy our Tasmanian-grown hemp garden bedding. It has a lot of benefits over mulch. We did a five-year trial with the Tasmanian Institute of Agricultural Research down the Huon -

**Ms TEALE** - The parent company did.

**Mr TEALE** - Yes, our parent company did, but we did the work.

*Laughter.*

**Mr TEALE** - They actually proved that, compared with eight other commercially available mulches including pine bark and green waste, hemp had much higher worm content; the ground fauna levels were through the roof. We can provide this information for the committee if they wish. The Tasmanian Apple and Pear Growers Association hosted the trials. They came back and found that the apples in cold storage that were grown on hemp mulch were crisper - by whatever test they do on apples to test the crispness - after three months of cold storage.

**Mr STURGES** - The crunch test.

*Laughter.*

**Mr TEALE** - Yes, that's it - a bite's as good as anything, I guess. They also found that the apple set was more efficient from a certain point of view. Some of these terms are going right over my head because I am not an apple farmer but the long and short of it was that the Apple and Pear Growers Association was impressed and pleased.

We did a trial down the Huon at the research station. It was originally just going to be a fibre trial so that they could look at the outer fibres of the plant and the inner fibres of the plant, which are totally different again, it's more like a woody interior. The fine fibres on the outside are what makes things like this shirt, Lisa's top and my socks.

**CHAIR** - I was going to ask you about your shirt; I thought it might have been hemp.

**Mr TEALE** - It is hemp, yes. It is the outer fibres that do this.

## **PUBLIC**

When we did the trials down there, it was originally going to be a fibre crop. We had drought problems that particular year and a great shortage of seed for our seed bank here in Tasmania, so we spoke to the ag department and they said, 'Yes, let it go to a seed crop and we'll just get it headed'. After two years of the ag department saying we would have access to their seed header, which at that stage was based in the north, they said, 'No, sorry, you can't have it; we might be needing it ourselves so you'll have to find your own header'. Then we discovered there was no seed-heading equipment in the Huon Valley whatsoever, so we had to get one brought over from the Coal River Valley at our expense.

For 14 years, we've operated on an absolute shoestring. Our parent company has, at times, worked on shoestrings and then sometimes under investments from overseas there are companies which then take a stake in their operations. But I want to say that at every step of the way, we've done this on almost zero money; we've done it more out of love and frustration, that has keeping us going more than anything else. It's not from lack of going to the Department of Economic Development and putting forward to them what we thought were some pretty good, sound suggestions and basically being scoffed at again.

**CHAIR** - I am mindful of the time.

**Mr TEALE** - Sure.

**CHAIR** - I was interested in the information that you provided regarding article 28 of paragraph 2 of the United Nations convention. Has the industry sought a legal opinion regarding that article?

**Mr TEALE** - Phil's company is saying that basically they agree with what I've told you guys, that we are in contravention of the United Nations article on hemp. That's the feeling within the industry, certainly in Australia. I wouldn't have a clue about overseas.

**Ms TEALE** - We don't know whether there's been a legal challenge to that.

**CHAIR** - I am interested, if there had have been, I thought if you did have - yeah -

**Mr TEALE** - I can say anecdotally that the food industry in Australia, the Sanitariums of the world and overseas, think that even the need for this inquiry is a backward step because it shows that no-one here seems to believe what's going on in the rest of the world, and it is absolutely booming. China is planting hemp in the hundreds of thousands of hectares; I'm not exaggerating.

**CHAIR** - Quickly, is there any issue with weed infestation? After crops are harvested, is there any remnant or is there a possibility of contamination into other pasture or neighbouring properties - blowing and ending up with wild hemp?

**Mr TEALE** - In the 14 years we have done our trials basically a winter will kill off any regrowth anyway. Under the licensing agreements any regrowth has to be killed. The farmers will run the cows over it anyway so it wouldn't even survive one season. So, no.

## **PUBLIC**

**Mrs TEALE** - Because the hemp has its place as a rotational crop, and that's one of the best advantages from a farming perspective, then they're usually harvesting and turning that in and then replanting quite soon afterwards.

Can I just say, though, that some of the fibre you mentioned before with Patsy and Frits - there is already a hemp house at Table Cape. Once again, that has been recognised as a carbon sink. The annual crops are not listed to be able to become a carbon sink, but it is proven that that hemp will absorb and sequester a lot of carbon, another added advantage if you could go in that direction.

Just on the New Zealand oil you mentioned too, they are producing it and I imported 1 000 litres of New Zealand hemp seed oil at Christmas time to fill the demand in my market and still could not fill it. The New Zealand oil is definitely being sourced around Australia and across the world.

**Mr ROCKLIFF** - So you are effectively saying that to grow and expand your business, if the hurdles were moved out of the way effectively, you could source that product from Tasmanian farmers, presumably given the freight and everything else, at a very competitive price.

**Mr TEALE** - Yes. Freight equalisation has helped us in the exports but when we're talking about local producers like the plastics company at George Town, they are very keen to source locally for the obvious savings on freight et cetera.

**Mrs TEALE** - Can I also say that regarding the THC testing - that was another question you asked - when we originally started, the food labs at New Town were trying to do the trials. They didn't keep their food standards up to date. Our parent company now works in Western Australia and because of the number they arrange the THC testing on behalf of our farmers here under their contracts, so they have a bulk testing but it goes to Western Australia. It shouldn't need to be like that; we should be able to do it somewhere locally here.

**Mr ROCKLIFF** - And that costs \$600?

**Mrs TEALE** - It doesn't in Western Australia.

**CHAIR** - How involved would it be to test here?

**Mrs TEALE** - They just need to get a biostandard in from Sigma Pharmaceuticals; a THC standard. It lasts approximately five years.

**CHAIR** - And the testing equipment and so forth?

**Mrs TEALE** - It should already be at the labs, I should imagine.

**Mr TEALE** - I would like to think that the labs are here, but it was explained to me not too long ago that all the police can test for here is whether it's cannabis or not. They can't actually go down to THC levels. We've been using a lab in Sydney, I think, for our tests.

**Mrs TEALE** - No, that is for the food.

## **PUBLIC**

**Mr TEALE** - Yes, the food oil, sorry. But again, Sigma Pharmaceuticals stocks base levels of pure THC that are used for an industry standard in every other state except here.

**Mrs TEALE** - Another point, Chair. I realise the time, but you did ask about the food laws and the police and the seed and the general public. We're not averse to the fact that whole seed can still be restricted to a point, but the majority of customers or the general public won't be interested in eating and munching on whole seed, because it's a bit dry and crackly and gets in your teeth. De-hulled seed is the next market, which means that most of the hull of the outside of that and that's where the fleshy meat is and where the nutrients are. That is where the industry would predominantly go - and once again, as Frits mentioned, there's no THC in that.

**CHAIR** - The committee may have to look at this a bit later on, so I do not want to pre-empt any deliberations of the committee, but I am interested in - not right now, because I have to wind you up and I am sorry to do that - but if you did know how we could be supplied with information about what it might cost to establish a lab in Tasmania or how that could be managed, I would be interested to receive that information. I am putting that on notice to you, I guess. If you did know, that would be great. If not, perhaps you could refer us to somebody who could provide that.

**Mrs TEALE** - I have the availability to do that because there is another person now doing some trials and testing through the Southern Cross University.

**CHAIR** - Okay, I will put that on notice. I am sorry to wind you up but thank you very much; it has been very interesting.

**Mr TEALE** - Thank you.

**THE WITNESSES WITHDREW.**



**Mr BRIAN HINSON** WAS CALLED, MADE THE STATUTORY DECLARATION AND WAS EXAMINED.

**CHAIR** - Welcome, Mr Hinson.

**Mr HINSON** - I have prepared a statement that I am quite happy to be public knowledge. My capacity here is as a retired person seeking assistance to develop two of my own hemp industry-related ideas. One recently received an Australian Innovation Fund grant and the other is awaiting approval from IP Australia. I would be interested in becoming part of a team to project-manage my ideas or otherwise assist in any industrial hemp ventures in my field of experience.

I am a past textile technologist and textile manufacturing manager with 32 years' experience in the field. During my working life I have made many textile industry contracts, both here and overseas. I have no other post-matriculation formal qualifications other than those associated with textiles.

The following information about my olive industry interests may seem irrelevant to the inquiry at this time, but I assure you it has some relevance, which will soon become apparent.

After leaving the textile industry, I planted a small grove of olive trees and later became a Tasmanian Olive Industry Association committee member. I am still on the committee of the Tasmanian Olive Council. For most of this time I have held the position of association secretary and have represented the Tasmanian Olive Association on three state government horticultural research development and environmental advisory committees. My interest and knowledge in olive oil extraction grew throughout this time. I own a small olive press but have worked as a technical consultant for the owners of the state's largest olive grove. I am particularly interested in the effects of how an olive grove's geographical latitude and local climate affects the fatty acid chemical compound within the oil.

I eventually discovered that several olive groves around the state, including mine, had oleic acid content percentages slightly higher than the International Olive Oil Council's world standard. Oleic acid is a monounsaturated fatty acid, also known as Omega 3. Tasmanian extra virgin olive oils can have a very low free fatty acid level. This was shown in a 2005 research project study of 11 groves from around the State. However, these oils had varying antioxidant polyphenol levels. The free fatty acid level generally reflects the antioxidant nature of the oil. With age and incorrect storage it will oxidise and eventually become rancid. However, this oxidating period is extended considerably if the extra virgin olive oil starts with a very low free fatty acid level and it also contains a high level of polyphenol antioxidants. Please be advised I know how to produce such an oil. I try to set up a new olive oil chemical profile standard and then applied and received an innovation patent. My motive for this was to try to create a point of difference for Tasmanian extra virgin olive oil from that produced in warmer climates.

The Mitsubishi Food Corporation Tokyo heard about this and they indicated that they were interested in a possible future development collaboration. After calculating the predicted volumes from my own on the states largest olive grove near Campania,

Mitsubishi withdrew due to the insufficient oil volume. It is my opinion that the Tasmanian olive industry development is being stifled by the lack of a large olive oil extraction plant which could process olives cheaper and quicker than a few small machines around the state, plus as yet there are no large mechanised olive harvesters that are suitable for much of our terrain or our regions fruit detachments requirements. Please note that olives require a different and considerably more expensive type of press than used for hemp seed oil extraction. Also, olive presses are only operational for approximately two months of the year. However, hemp seed can be stored and used progressively to suit sales demand for up to 12 months.

I have learnt that other cool zone oil seed crops and fish had improved fatty acid nutritional advantages over those grown or caught in warmer climates. Of particular study interest to me was the percentage content and proportion of the essential fatty acids known as Omega 3, 6 and 9. I became interested in the antibacterial, antifungal and antiviral properties of the olive fruit and leaf. I discovered that hemp seed oil had an Omega 3 to Omega 6 ratio of approximately 1 to 3 but expect that this does vary with different cultivars and growing climates. I am aware that percentage contents of the component fatty acids do vary considerably. Incidentally, this ratio is very close to those found in cold water oil fish. I understand that the World Health Organisation recommends that the ideal proportion of these essential fatty acids be one part Omega 3 to between 5 to 10 parts Omega 6.

Hemp is the world's strongest known botanically sourced textile fibre. I recently discovered that even flax fibres were being sued to strengthen and therefore reduce the amount and weight of synthetic resin for composite mouldings to produce internal panels for cars, planes, etc. These have been used for this purpose for many years. Hemp was the preferred fibre because it is stronger. However, I was intrigued that it was not used in marine composites. I know a bit about fibreglass boat hull osmosis and how it is exacerbated by any soluble chemicals hydrolysing within the composite. Hemp like all other cellulose fibres is very hydrophilic. The textile industry uses various water soluble chemical compounds to make the fabric water repellent. These treatments are only semi-permanent but some are more durable than others. I assumed that if these same chemicals were used on hemp fibre in a marine resin composite then any prolonged exposure to absorb water molecules will break them down and create osmosis problems.

I used to work in a textile research establishment in the UK. My main function there was to experiment to improve the abrasion resistance of cotton fabric for shirt collars using organic chemicals and solvents. It did work but an unwanted side effect was that it made the textile progressively waterproof. Incidentally the term 'waterproof' refers to a permanent hydrophilic treatment unlike water repellent which is only semi-permanent. This research was discontinued when the laboratory was closed and to my knowledge this process has never been considered for use on hemp fibre.

I applied and received an Australian Innovation patent for this organic chemistry treatment on hemp fibre. Its main purpose was to use treated hemp fibre with synthetic resin to make a composite suitable for marine use. After referral assistance from the DED and the Australian Marine College, my theories have currently been considered for a future research project at the University of New South Wales. If it is proven it will make boat hulls and other marine composite applications lighter and stronger. The composite would have less weight because it would need less synthetic resin to

strengthen it. This in turn would reduce water soakage regain which also eventually adds to the crafts weight and proportion efficiency. If successful, it could replace fibre glass as a boat hull material. This would probably attract considerable financial investment for businesses to farm hemp and manufacture the treated hemp material. It could even expand our boat building industry. It is my preference that these developments occur in Tasmania.

Making the hemp fibre hydrophilic has many other uses. Hemp marine ropes are very strong and durable and have been used for centuries. They have now been replaced with polypropylene and nylon fibres. These are both stronger and lighter to handle because they do not absorb much water. Treated hemp fibre ropes would be strong and be waterproof and would be lighter once exposed to the marine environment, plus they would have improved abrasion resistance. Other products such as outdoor shelter hemp canvas awnings, tents to be made from hemp instead of cotton. This would make them stronger and permanently waterproof and just water repellent. Hemp fibre is also resistant to UV light and it makes an ideal sunshade textile.

I have had some recent contact with hemp fibre companies in Belgium and England. From my past textile experience I can fully appreciate machine ranges complexity and high cost. These ranges only the fibre to what is termed the 'tow' form stage. It needs further spinning and weaving to turn it into woven cloth. Incidentally, there may still be some textile capability left in Tasmania to do these latter processes.

I believe that the woody hurd from hemp fibre extraction or other stem waste such as that from hemp seed production would also make suitable fuel for pellet fire furnaces. Olive oil extraction waste when dried is reported to have a burning calorific value almost as great as coal and, unlike coal, I presume it is considered carbon emission neutral.

There are many cultivars of low THC hemp to suit the growing climate and end use. I believe that there is a tremendous opportunity for Tasmania with our climate so as to lead the way with textile fibre use and development. Hopefully, one day, Tasmanian hemp fibre could be as famous as flax in Irish linen. Flax is a similar fibre but hemp is stronger, longer and often coarser. I believe that the Chinese have developed hemp cultivars with finer fibre. These may help hemp to displace cotton as the main cellulose textile fibre.

As previously stated, I have a layman's interest in botanically sourced oil chemistry. Hemp seed oil compared with other seed oils is easily oxidised, however, I am informed by contacting Belgium to see if any stored [inaudible] 12 months so that eases the oil's instability concern because oil could be extracted periodically to suit retail demand. The oxidated instability of the hemp seed oil would, I expect, make marketing difficult. I understand it needs to be stored in refrigerators by retailers and consumers. The product container, once opened, is recommended to be consumed within three weeks. It also has a comparatively low smoke point. Over 165 degrees C it decomposes and this limits its culinary use.

I have an idea which may overcome these difficulties and also allow the waste hemp meal to be nutritionally improved so that it could replace fishmeal in feed pellets for our fish farms. I have recently applied for a patent for these processes. As yet, it has not been approved, therefore I do not want to reveal too much here in the public arena today.

My hemp idea does make use of olive products. Hemp seed meal for fish food also uses olive's fibre protein and antioxidants as well as the tree's natural antibacterial, antiviral and antifungal properties.

Last week, I suggested to DPIPWE that marine pathologists assess these properties. I also indicated that they should look at the antiviral properties for treating or preventing abalone ganglioneuritis which I believe is a herpes-related disease. I believe you have been given a copy of my e-mail exchanges with Bond University's Professor Lowthenburg concerning the antifungal properties of olive processing waste on several agricultural crops including potatoes. I can also personally confirm that the olive produces an antibiotic similar to flucloxacillin as I have synthesised that medicinal antibiotic.

I would like my idea to be evaluated by DPIPWE. My small olive press is available for this work and together with the small hemp seed press plus pelletising machine might be able to prove my theories. Finding the best variety of locally grown hemp seed whose oil is mixable with my preferred olive product would be a major factor in this investigation. If one or both are proven then I suggest the government consider purchasing land for a small factory in Bridgewater industrial estate. I also recommend they should purchase a one to two tonne per hour olive press and hemp oil extraction machine and pelletising machine for fish-feed.

I would expect that, for hempseed oil and other products used as a food, it would be a requirement to monitor the THC level of the food. I can therefore assume that there would be a preference for these licences to be given to a limited number of processors. Providing they are willing to do this, I suggest the hempseed growers should form a cooperative to market their food all under one brand. Hopefully, the conjoined olive and hemp mill could run this cooperative which should initially be given free lease of the factory, where they would be expected to cover on-costs. Their staff could also be trained to harvest and process olives on a commission basis for the state's olive growers. This processing or harvesting fee for olives should not be for profit. Both industries should then reciprocate government generosity by freely providing their dried waste olive pulp and tipped hemp stems for use as fuel pellets to heat government nominated establishments.

As these industries grow, there may be enough waste produced to help support a nearby biomass power station. Alternatively, and at this moment, I expect there is enough willow in local water courses to justify such a power plant. Harvesting willow would be best done with teams of trained operators with a mobile chipper, small excavator and trucks. I suggest that displaced forestry workers be employed to start this test as soon as possible. As a residual, small twigs and branches may re-sprout, unskilled crews could remove these after the forestry workers have vacated the area. This work could be done by environmental volunteers, selected jail prisoners, or people on community work orders. Flood hazards associated waterway restriction from willows could therefore be reduced.

Workers around the state could rail freight chipped willow to a southern power station. State government could also consider adapting Bell Bay power station to have a dual fuel option of bio-massing gas. This type of farmed biomass fuel, I believe, would be considered carbon emission neutral.

As an environmental action in harvesting the willow, and at the same time providing work for some of our displaced forestry workers, I believe it would qualify for federal funding.

In summing up, if government does not approve hempseed oil to be suitable for human consumption, I predict there will be insufficient volume of seed waste for pellet food for our fish farms. To make hempseed oil affordable for consumers, I would suggest that the future farmer cooperative considerably lower the seed's farm gate price as indicated in the Macquarie Franklin's Tasmanian hemp enterprise report. Marketing the factory's value adding products should more than compensate for this seed price reduction.

If it is proved that my oil blending treatments are satisfactory, I suggest that the government provide funding for the Menzies Institute to carry out a study of the nutritional aspects of the enhanced food oil. If this were found to be positive, it would boost hemp sales enormously. This oil would give consumers an alternative and more environmentally sustainable botanical source of Omega-3 and -6 which are close to the proportions found in fish. It may also help alleviate consumer pressure on our ocean because fish is the best source of the prescribed proportions of these essential fatty acids.

If hempseed and olive waste could be used as a fish food, it should assist the marine environment considerably. I expect that any consumed plant source food pellets would take longer to decay in the water than the current fish meal protein. This would increase its food appeal to marine scavengers. I also understand that sediment decay depletes the dissolved oxygen in the water so, hopefully, the farms won't have to move their pens as often. I expect that plant source feed for fish would have large market advantage to our fish farmers. They could promote their industry as being more environmentally sustainable and, hopefully, without the need to add medicinal antibiotics. I have considerable hobby interest in the marine environment and agree with the concept of both on and offshore fish farms, however, I would prefer that an increased proportion of the feed for these fish farms be made from protein and fatty acids obtained from land agriculture.

If my hemp fibre marine composite idea is proven, perhaps the state government would consider having a prototype boat constructed. This could be of suitable design to be later used by fisheries or marine police. If I cannot source the hemp material and carry out its chemical conversion in Australia I do have contacts overseas that should be able to find someone to do it. Thank you for giving me the opportunity to present my ideas.

**CHAIR** - Thanks Mr Hinson, for a very detailed submission on a lot of opportunities. I will pass over to Mr Rockliff.

**Mr ROCKLIFF** - I concur that it was very detailed and in many respects answered some of the questions I would have asked. In your written submission I am very interested in the various uses of the product that you have identified and particularly the different aspects of the raw material. You made the comment that to produce high-quality hemp fibre, high-density planting is recommended to restrict lateral branching and leaf internodes, as these produce irregularities in fibre thickness and it is best grown quickly et cetera. You also mentioned that we need to be more in the space of the niche product.

**Mr HINSON** - Sorry?

**Mr ROCKLIFF** - In the hemp industry, more niche products - I think you made the comment somewhere in your submission that the low-value part of the hemp crop be done elsewhere but would it require, in your knowledge, any more agronomic input to have the high-density planting? Is this where Tasmania, in terms of producing high-quality hemp fibre, can have it -

**Mr HINSON** - There are a lot of cultivars of industrial hemp and I believe they should be investigated to try to find, not so much for my marine composite idea, but maybe to develop a textile industry from the fibre. I believe it is recommended to harvest head just as it reaches flowering stage, so then you cut the stems off and discard the rest. It may be practical to do this even earlier and get a finer textile fibre from the best fibres, but that is out of my field of expertise. My main textile industry experience is post-woven or post-manufacturing.

**CHAIR** - Can I ask about the experience you have had in textiles? Would you like to talk about that? I am interested because obviously you have a wealth of knowledge about textiles.

**Mr HINSON**- Yes. Most of it has been in Tasmania. I had nearly 12 months in the UK in a cotton research laboratory, which incidentally then was part of the Devonport mill which is now I believe owned by Geoff Parker. Since my family emigrated in 1967 I was employed at the old Silk and Textiles and have been there ever since, in the one factory through various owners, and have seen a lot of developments and worked with a lot of different textile fibres.

**CHAIR** - So you obviously have a vast experience and are quite qualified in this area of textiles.

**Mr HINSON** - Yes. That industry went through a lot of change and we adopted as much of that equipment as we could and adapted our processes, and I have been involved with quite a bit of that. My field of expertise there was in dyeing, finishing and bleaching and the fabric preparation for printing and post-print.

**CHAIR** - How complex and/or competitive would it be to use hemp clothing? Is it possible to manufacture or use it here -

**Mr HINSON** - If we can get the right culture bark for the fibre and make it fine enough I believe it might interest you. It could even add to Devonport Weaving Mills -

**CHAIR** - How would it compete against say cotton, for example? Is it low cost?

**Mr HINSON** - It's a lot stronger than cotton. It's as water absorbent as cotton but usually coarser. It depends on what sort of cotton fabric you are talking -

**CHAIR** - There are a lot of industrial applications perhaps in work environments -

**Mr HINSON** - In industrial applications it would be a lot better.

**CHAIR** - like protective overalls.

**Mr HINSON** - It has better UV resistance than cotton and better durability. Without considering my idea with processing it, it is a better fibre. It's easier to spin because it's longer.

**Mr ROCKLIFF** - You mentioned the Macquarie Franklin hemp enterprise report.

**Mr HINSON** - Yes, they quoted \$3.50 per kilogram. I believe if that price was used for food consumption it would make the oil too expensive to be used in sufficient quantity to get enough waste to use for feeding fish.

**Mr STURGES** - In the penultimate paragraph of your submission you have suggested that a future hemp industry shouldn't be allowed to become a cottage-style industry. I think you've clarified that by saying it will assist in quality assurance.

**Mr HINSON** - The security and illegal substance growing and things like that. I am concerned about the quality of the product. I am retired but am quite happy to work with any development team to get a good quality product, whether it be oil or textile fibre.

**CHAIR** - Thank you very much, Mr Hinson.

**THE WITNESS WITHDREW.**

**Mr JAMES GRAHAM** WAS CALLED, MADE THE STATUTORY DECLARATION AND WAS EXAMINED.

**CHAIR** - Thank you, Mr Graham, for coming here today and thank you for your submission.

**Mr GRAHAM** - I don't have a prepared statement or anything like that. I would like to acknowledge the people who were here first. I consider this a privilege and an honour. I made a submission based on the fact that it's almost crazy to be sitting in a room having to make a case for hemp. Hemp has been around for such a long time and it seems that some people get it and some don't and maybe we're in catch-up mode. I didn't expect to be here giving evidence. It was a submission based on what I felt was already out there, and I feel very small after what I've just heard.

My comments were around the idea that maybe we need to explore the markets for mulching. Every week I get recipes sent to me and this week I was sent the recipe for sweet hemp tarts, and I'm going to table it.

*Laughter.*

**Mr GRAHAM** - When you get the recipe, it says at the bottom, 'At the time of writing, hemp seeds and hemp foods are not legal for human consumption in Australia'. I am tabling that, and I've also just received some information about a seed that has just been put on the market, a hemp seed genetically designed in eastern Canada and a flagship that is called Anka. It was first developed in Ontario for eastern Canada conditions, and I think you'll find that the conditions are pretty much like what Tasmania is all about. The winters are a bit harsher but other than that it's pretty similar.

Gentlemen, I'm not an expert. My submission was made in good faith, never thinking I would be here. I need to be honest about this. I am an elected official, a councillor with the Derwent Valley Council, and if any opportunities are raised in the area of production of hemp, I'd like to see it happening in my municipality.

There are so many opportunities and it is an honour to be sitting in the room talking about this ancient thing. Everybody else seems to get the idea that there's this stuff about and we're all going to be smoking pot if we get all our fields growing this stuff. That could happen, I guess - I don't know, I doubt it - but we need to maybe separate the two. 'If you want to smoke it, try smoking these shoes - it's not going to happen'. 'Try smoking that guy's shirt - it's not going to happen'. Do you know what I mean?

*Laughter.*

**Mr GRAHAM** - We can turn this debate into what it really needs to be because I think it's a joke. I'm not an authority or anything like that, I'm a commonsense kind of guy. I'm 64 years old and we were having this debate when I was 17 years old in Canada. The figures for Canada are out there but it's in the millions that this crop generates, and whatever complexion it arrives in, it doesn't seem to do any harm. I feel right out of my depth at the moment.



**CHAIR** - Mr Graham, you mentioned that when you were 17 you were in Canada and that was a topic of debate. How did that unfold, was it being legalised for commercial use?

**Mr GRAHAM** - Let's put this whole thing in perspective. At the same time that that was happening, we didn't have a term for the gay movement until 'gay' arrived and all of a sudden we had a language for it. We didn't have anything really happening around Greenpeace until the Greenpeace language arrived. We had 'Don't make waves'. We had the women's liberation thing happening - everything was in the mix. So the kind of thinking that was around the use of hemp was also around testing all the other boundaries that were out there. I feel that it was in that complexion of stuff that was going on.

If we put it in another perspective, here I am 50 years down the track and things have moved slowly. The green movement took a while to arrive, the gay movement took a while to arrive. The women's' movement - we could have nipped it in the bud early if we had said, 'Girls, yes, you can do it all, but will you want to?'

I think what is happening now is that hemp is back in the mix now because the rest of the world caught up earlier and got on with it. While everybody else was talking about separating the marijuana and making sure there was no THC in it, other guys were getting on with it, and now it's catch-up for us. But I believe we can do it. I think Tasmania is an incubator and I have made some recommendations in my submission but I think whatever the group is, it has to have the textile guy in it, the guy that knows what to do with stuff.

The oil-extracting technology - in my submission - we are perfectly poised to find out where the gaps are and then get on with the business. We become the -

**Mr STURGES** - So you're suggesting there is a great opportunity for Tasmania.

**Mr GRAHAM** - There is so much opportunity, sir. If I had an acre I'd be trying to put into hemp, because I am more on biochar. I'd like to see our municipality moving in the direction of biochar, and as the guy was saying, it captures carbon. There are so many opportunities. I'm a trendy sort of guy, I've always worn Converse, and now they make them with hemp they've got me.

*Laughter.*

**Mr ROCKLIFF** - Mr Graham, thank you. You touched on oil extraction technology and I was going to ask a question about that because you mentioned the drawbacks of being low yield for extraction, technology and stability of the oil. What does that mean - the keeping of the oil?

**Mr GRAHAM** - People who are around the stuff would know more about that, but for me that's just kind of a blanket thing; I would have no expertise around that but in the research that's what they talk about when it comes to oil. I think if we, as an island, could figure out how to do stuff around that, it could be a possibility for us.

**Mr ROCKLIFF** - You have an asterisk about the fact sheet from Ontario so I'm assuming you weren't necessarily referring to Tasmania with respect to the drawbacks but maybe we could find a competitive advantage there, is that what you're saying?

**Mr GRAHAM** - Exactly. They're citing that in their neck of the woods as saying it might be in the too-hard basket. I'm saying that if they have acknowledged that, we might be the guys saying, 'If it's too hard for you we'll give it a go', in maybe a collaboration thing, or the industry could make a few phone calls, get around the table and say that Tasmania is prepared to step up on this one - 'Where's the money, honey?' - that kind of thing.

**Mr ROCKLIFF** - Very good. Thank you, Mr Graham.

**CHAIR** - Thanks.

**THE WITNESS WITHDREW.**

DISCUSSION BY PHONE WITH Dr ANDREW KATELARIS.

**CHAIR** - Thank you very much for your submission and thank you for being available today. Any information or contribution that you make today will be covered by *Hansard* so you do have parliamentary privilege, however, anything that you may repeat outside of this committee would certainly not be protected; not that I am assuming that you would be.

**Dr KATELARIS** - Okay. I and Patsy Harmsen in Tasmania began the hemp movement here as long ago as 1988. It's been distressing that it has taken us quite as long as it has to get to the point where we are now but we're happy to be at the point that we're now at.

My current and specific interest at the moment is applicant A1039 for FSANZ to change code 1.4 to have hemp seed recognised as a human food. That's been the focus of the industry all along. We want to build an industry. As all the gentlemen are aware, there are several ways of commercialising the food uses, the fibre uses and the hurd uses. We are concentrating on the food uses at the moment.

Really, from my studies, I can't over emphasize the benefits of hemp seed as a balanced, nutritional and complete food. So far, and for the last few years, a moderate quantity of hemp oil has been manufactured in Australia, despite the FSANZ ban on being used as a human supplement. I am not entirely in favour of the oil as a dietary supplement because, when you are dealing with plant-based omega-3 or alpha-linolenic acid, you actually need the co-factors that are found in the hemp seed such as B-group vitamins, magnesium and zinc to properly utilise that.

From time to time I have received some criticism from the seafood industry that, because ALA is only an 18-carbon form of omega-3, it is not readily absorbed into the human metabolism. That's partly true but, if it's in the presence of the co-factors then it's very well absorbed. What we're aiming to do is actually produce hulled hemp seeds. These have been very popular in Canada and over 10 years of government support and development, they have a huge industry now, feeding the United States. We hope to, firstly, develop a domestic market and then an export-based market. That's where we are up to at the moment.

**Mr ROCKLIFF** - Thank you, Andrew, for your submission. I was interested in your application 1039. Is it any different to application A360 that you submitted in 2002?

**Dr KATELARIS** - Firstly, that wasn't mine. It was other colleagues in the industry but then they were trying to get it through as a novel food. The facts have remained the same but it was a slightly different angle - a novel food - whereas this is just going through because it is no longer considered a novel food. It's only really a semantic difference.

**Mr ROCKLIFF** - Right.

**Dr KATELARIS** - There was a fair bit ignorant political opposition at that time. Remember, A360 passed FSANZ's assessment and they were ready to redraw the code but it was knocked back at the ministerial level specifically by the then federal health minister. We like to think that things have significantly changed now in terms of public perception, the acceptance of its nutritional benefits and the broader understanding that

omega-3 is critically short in the Australian diet. Remember, the federal government themselves conducted research which showed that 90 per cent of Australian school children aren't getting enough omega-3 and that can significantly impact on their mental and academic development. So things have changed. It's basically the same sort of application but we think that 10 years on it should have a better run through the ministerial council.

**Mr ROCKLIFF** - Do you perceive any change in attitudes between the ministerial level or major political party levels, at a federal level, in the last 10 years?

**Dr KATELARIS** - Oh yes - from being incredulous. New South Wales and presumably Victoria - I am mostly familiar with New South Wales - are much more prepared to look at things in an intelligent way from an agronomic and yield point of view rather than just no, snigger and ignorance. There has been a change but the world has moved on past us. Hemp foods, as you probably all know, are freely available in a multiplicity of presentations - milks, ice creams, health bars - across Europe and America and we are very much playing catch-up.

**Mr STURGES** - The stigma appears to be an impediment in going forward with hemp production in this state in particular, and from evidence we have received I would say Australia-wide. Is that a reasonable proposition to put to you?

**Dr KATELARIS** - I am not sure what you mean by 'stigma'. I sometimes draw an analogy with homosexuality. Just bear in mind that only 20 short years ago any sort of homosexual admission was highly illegal, and now the Gay Mardi Gras is one of the biggest events, often with the participation of the police, so things change. Most of the so-called stigma is actually originating from people with a vested interest in no change in some of the policy and aspects of policing, rather than in the health food industries. Amongst the health food industries they are really very very keen to adopt hemp. Amongst the public, hemp fabrics and hemp clothing have been accepted, so I think there has been a complete weather change in that regard but there is a certain small group of vocal diehards that try to give this much more weight than it actually has.

**CHAIR** - How difficult or complex is it in Tasmania, for example, to set up a testing lab to test for levels of THC in hemp?

**Dr KATELARIS** - I don't think you have to establish one. What we have tended to do in New South Wales is that you can send it from state to state, just depending on who is giving the most competitive service, but commercial and public service to assay THC are very freely available.

**CHAIR** - One of the submissions we received noted that the police service would have difficulties with someone in possession of commercial hemp. That is, if someone declared it was then they would have to test and that would be expensive. They would have to send that interstate so there would be a time factor and that sort of thing.

**Dr KATELARIS** - When they say 'commercial' hemp, are you referring to fibre or to seed?

**CHAIR** - I do not know.

**Dr KATELARIS** - You cannot talk about anything in a totally generic sense with police but vocal elements within the police force - mostly within drug enforcement - act more like zealots than rational scientists and they throw up problems. Remember that levels that we have voluntarily accepted and the ones that are going to be adopted by FSANZ for hemp seed, that is whole hemp seed, is five parts per million. I mean it is vanishingly small. In England they have given up THC testing on hemp foods. The only requirement is that they come from seed from registered growers.

Testing plants has been going on for several years now without any real problems. That is where the primary testing should be done because as long as the plants are below the 0.5 in New South Wales and whatever has been set in Tasmania - usually between 0.3 and 0.5 - following that there does not need to be additional testing. In terms of people in possession of seed, if you can establish that it has come from a licensed grower then there is really no issue.

**CHAIR** - I wondered if there was a testing facility here. If it was a fairly simple process -

**Dr KATELARIS** - It involves reasonable analytical chemistry but it is a high-school-level chemistry once you have the equipment. There would be a dozen labs in Australia that could do it. It is only a question of getting the standards. It uses standard methods. All the laboratory equipment for any analysis is the same; you just have to get the standards.

**CHAIR** - What I understand to be the situation is that currently the police lab here in Tasmania can test as to whether it has THC or not, they just cannot test the level.

**Dr KATELARIS** - A qualitative rather than quantitative test, yes. My understanding and my belief is that if we take a view from the rest of the world - and bear in mind, this is the rest of the world and we're just the odd man out at the moment - it is really an anxiety that is unfounded in reality.

**CHAIR** - I accept what you are saying but we also have to do a parliamentary report.

**Dr KATELARIS** - Yes, sure. From what I understand, FSANZ is in the process of further investigating some of these police concerns specifically with the saliva testing. There is a big concern that if people eat hemp food they may show a false positive on saliva testing and then additional expense will be incurred to verify that or not. My response to that is firstly saliva testing is not well accepted around the world as a reliable form of drug screening. We much prefer the New Zealand model of testing for impairment, whichever that is to be done, rather than testing for the presence of drugs and, thirdly, and most importantly, we've got some of the saliva tests and we did a test where people swabbed themselves, obtained a negative result, ate substantial quantities of hemp food and after swabbing again it was still negative. It is sad that we have been held up for over three months, probably closer to six months, by a concern that could have been allayed by one hour of testing on the policeperson's part. We were very happy to supply some hemp foods for them to test and completely put to bed the issue of saliva testing. Is that sufficient response?

**Mr STURGES** - It is. I probably did not phrase my question to you succinctly enough but that is where I was coming from. The stigma appears to be taking precedence over the science and I think that is a very good answer you have just given. It has helped explain.

**Dr KATELARIS** - Yes, but as I've said, with other things - like homosexuality - it goes. That's why I am confident that this also will go. I am not sure how many of you have seen the documentary *Billion Dollar Crop* which is now available on YouTube. That was a documentary we made 1995-96 to look at the political basis of the prohibition and the people that are so-called manifesting this stigma are really those with significant vested interests to keep the status quo.

**Mr STURGES** - Yes. I take your point.

**Mr ROCKLIFF** - Andrew, you mentioned in your submission that you are in the process of establishing seed-hulling facilities on the mainland.

**Dr KATELARIS** - That's correct.

**Mr ROCKLIFF** - My first question is how is that going? My second question relates to the rest of the sentence when you said you would expect to commission a second seed-processing facility in Tasmania when legislation is finally enacted, et cetera. Why would you not just import into the mainland the raw product and improve your economies of scale with the processing facility you are setting up now? Why would you go to the additional expense of duplicating that infrastructure, even though of course in Tasmania it would be very close to the resource?

**Dr KATELARIS** - Look, it's sometimes hard to know which way things are going to develop. Firstly, the seed-hulling machinery is not that complex. The timing for this is very appropriate. We have just produced our first run, a small run, of whole hemp seed. At this stage the machine needs some modification to assure the quality control that we need. We have to be fairly careful that the whole seeds and any contamination from the bracts and things like that are completely eliminated. So, yes, we have proved the machinery. It works reasonably well and with some planned modifications it will work to industry specifications.

**Mr ROCKLIFF** - Can you give us a ballpark figure on the investment?

**Dr KATELARIS** - For seed hulling?

**Mr ROCKLIFF** - Yes.

**Dr KATELARIS** - Under \$100 000 would get you a very efficient seed-hulling unit. It is not the multimillion dollar sort of investment that a lot of things require. The ratio of what you have to put in to what you can potentially get out is very large, which is fortunate for us because after 20 years of campaigning, a lot of the money that should have been spent on physical infrastructure has been spent on lobbying and things like that.

**Mr ROCKLIFF** - Yes.

**Dr KATELARIS** - But it is not huge by any means in terms of the value adding you can do. Also, in presuming firstly a successful assessment report by FSANZ and then a FOFA thing in December, that will open the way to a whole range of associated industries. It's not only the hemp seed itself, the hulled seed; that opens the way to hemp seed ice-

cream, hemp health bars, things that can be more directed at school-age children to make it easy for them to eat healthy.

To answer your question more fully about Tasmania, firstly you still have a good image there in a world that is rapidly becoming increasingly polluted with radiation and all sorts of things. Fukushima has been grossly understated in terms of what it's doing to the background contamination, especially in the northern hemisphere. The further you get away from it the better. This is still speculative, but we may be producing some plain hulled seed here but say, for instance, there was an interest in making a particular ice-cream or hemp milk or something like that, you can have the second plant there in association with its advanced processing. Once we get this first machine singing sweetly it will be a lot easier to get the next one up. We are at the stage confidently and comfortably that we know we can do it and it's only a quality improvement we're working on now.

**CHAIR** - I don't know if I am out of order in asking this question, but you put a submission in to the federal inquiry into the food aspect of hemp.

**Dr KATELARIS** - When you say 'federal', do you mean the FSANZ thing?

**CHAIR** - Yes.

**Dr KATELARIS** - I am the author of 1039.

**CHAIR** - Where is that up to?

**Dr KATELARIS** - Firstly, there is meant to be a statutory period of 18 months and we put this in in 2008. There has been a series of unreasonable delays caused, firstly, by the ministerial council wanting to see it face-to-face and then a last-minute intervention by police and policy with their concerns about saliva testing. I'm not too fussed at the timescale because we seem to be moving towards a vote this December. I don't think it is likely to be further advanced but after what amounts to a third round of submissions, FSANZ and the FSANZ board should be signing off some time in the next couple of months and passing it on to the forum of food regulation at their December meeting. That's the current plan. We've approached a number of people who will be voting there and everyone is still tentative at the moment. They're all waiting for the FSANZ final report before they commit their voting positions.

**CHAIR** - So you're saying things are looking more optimistic?

**Dr KATELARIS** - I think so, if I understand the FSANZ process accurately. Back in 2002 when Tony Abbott was health minister, he merely said. 'It sends the wrong signal', and that was enough to kill it off. With the regulations that govern FSANZ and its relationship with the ministerial council - I use 'ministerial council' and 'FOFA' interchangeably because they are the same thing - they simply can't dismiss something that FSANZ has passed, and it has passed this twice now. They have to give substantive reasons, backed up by science. I don't want to pre-empt any result but I understand the ministerial council just can't write it off again. They have to say, 'We really feel this', and then produce substantive argument to back it up.

**CHAIR** - We heard information earlier today about the climate in Tasmania for growing hemp and how that relates to quality et cetera. It can be grown in other states but we're hearing that Tasmania in some ways is well suited for the quality end of growing hemp. Without getting into a state-by-state argument, how would you say the industry looks here in Tasmania as to readiness to go?

**Dr KATELARIS** - Tasmania has several advantages. Firstly, it is in the latitude of where there's a lot of pre-existing European varieties, so you don't need to do a lot of adaptation. The European varieties have been well stabilised so we won't have troubles with drifting up of THC levels in the plants. In some of the semi-tropical varieties we are using in northern New South Wales the amount of background work hasn't been done and it's a little more challenging. Secondly, there's not a lot of quantitative data but it is fairly clear that seed crops grown in the more temperate areas produce a higher oil percentage. We haven't methodically examined that but it's fairly obvious in the literature, so not only is it ideally suited to existing cultivars but it's also likely to produce a slightly richer seed. The difference between Victoria and Tassie may not be great but that is something to consider.

We are somewhat disappointed in the whole Gunns debate that hemp as a non-wood source of fibre for paper never really got a mention, let alone a serious study. The seed industry can be viable in small areas; with up to 100 hectares you can have a fairly substantial seed industry on a smallish scale, but for paper industries you need to be in the many thousands. We would like to think that the seed industry can lead to the establishment of hemp agronomy generally and then move on to the larger-scale applications.

**CHAIR** - How does it compare as fibre to woodchips from gum trees?

**Dr KATELARIS** - In paper?

**CHAIR** - It wouldn't be comparable to woodchips, would it? Can you chip hemp?

**Dr KATELARIS** - Oh, yes. There are two different ways to go with hemp. You can have a dedicated fibre crop where the whole thing is cut down before seed formation. Ideally when you are going for textiles it is cut at technical maturity, when the male pollen is shedding but before the female flowers have properly developed - that is when the best fibre is taken. From our modelling here and because we have been led along by the food industry, you go for co-culture where you actually take the seeds off the top plant and then you are left with a lesser quantity of slightly inferior fibre, and that incorporates bark fibre on the outside of the stalk and the hurd on the inside. We have had some dramatic success with the hempcrete building. Hempcrete is made from the inner fibre or the hurd of hemp. After it has gone through a decortication process, a series of fluted rollers to separate off the bast fibre, the hurd chips, about 3-4 millimetres in size, can be mixed with various binders like lime, magnesium oxide and all these different things that we have experimented with, and it makes a brilliant building material called hempcrete.

I will not have time to give you the song and dance on that but we have made a few structures, and several houses are now under construction in Australia with hempcrete. Suffice it to say that it is a lightweight sapindaceous material that is fireproof and termite-proof with properties halfway between timber and cement. It really is brilliant. I



have put up a 5 by 4 metre structure for practice and we found we could make floors, walls and roofs all in the one material. We are producing houses with excellent thermal insulation and that is a real industry in itself.

**CHAIR** - How many acres would you need to be comparable to woodchip?

**Dr KATELARIS** - The sort of numbers you would be talking about?

**CHAIR** - Yes. For a hectare of gumtrees, for example, how many hectares would you need for hemp?

**Dr KATELARIS** - The figures that are always quoted are back to a USDA, United States Department of Agriculture, paper that was done in 1916, which said that hemp produces four times more fibre than a comparable tree plantation, but those figures are incredibly rubbery. In New South Wales you can get up to 20 tonnes of dried stem material per hectare if it is a dedicated fibre plantation. If you are taking seed off the top because of the lesser density you are growing the seed at it will be somewhat less than that.

**CHAIR** - 20 tonnes of what?

**Dr KATELARIS** - Per hectare of dried stem material. That is high. In small-scale well cared for areas, 20, but I would not want you to go away saying you will always get 20. Between 12 to 15 tonnes is easily achievable. In Europe eight tonnes is considered very adequate to keep the industry moving along. They are somewhat envious that we seem to routinely get more with not much effort.

**CHAIR** - But you would get more tonnes with gum tree, wouldn't you?

**Dr KATELARIS** - I can't answer to that. It depends, you have to spread it out over the years. That is the big issue. This is an annual crop.

**CHAIR** - Are there many countries that chip hemp?

**Dr KATELARIS** - Yes. When you say chip it, the main textile industries are in China and parts of Eastern Europe. Prior to that it was the Ukraine, where there was a huge industry centred around carpet backings from hemp. There was tens of thousands of hectares but that has largely been replaced by synthetics in the short term - a situation we hope will reverse eventually.

In Europe now, the industry was kept alive during the dark ages, what I call the dark ages, from the major step up of the prohibition in the 1960s, by French companies that manufactured, ironically, Job cigarette papers. They found that wood tree paper was too toxic to be passing the food standards for cigarette papers, which is an ironic situation. But the left over hurd from their vast fibre paper manufacture was used for housing building and that started the recurrence of hempcrete building. Currently, there are thousands of houses being built around Europe from hempcrete and there is plenty of evidence on that on the internet.

**CHAIR** - Okay. Are there any more questions?

**Mr STURGES** - No, thanks very much for your contribution.

**Mr ROCKLIFF** - Thanks, Andrew.

**CHAIR** - Dr Katelaris, was there anything else that you might want to finally touch on before we close up.

**Dr KATELARIS** - No, other than to say thank you very much for having this meeting and finally taking seriously a topic that can be of immense for benefit. I have spent decades on this and I would like to think I have not wasted my time. I would like to think I got on to it on the very sound agronomic and nutritional reasons. Those reasons have only been reinforced over the years as I have learnt more about the topic. I urge you to take the matter seriously and do not be blinded by the chemical equivalent of homophobes which are the only people who are opposing us at the moment.

**Mr STURGES** - Good comparison.

**CHAIR** - Thank you very much for that, Dr Katelaris.

**Dr KATELARIS** - Thank you, gentlemen.

**DISCUSSION CONCLUDED.**

DISCUSSION BY PHONE WITH Mr PHIL WARNER, MANAGING DIRECTOR, ECOFIBRE INDUSTRIES.

**CHAIR** (Mr Best) - Welcome to the committee, Mr Warner. I need to advise you that whatever you say today is covered by parliamentary privilege, so you have that protection. If you wish to discuss anything you think may be commercial-in-confidence, or something you may wish to discuss privately, if you indicate to me I can clear the room and we can go in camera and that information will not be made public. Anything you say outside of the hearing today is not covered by parliamentary protection. We thank you very much for the information you have provided. Would you like to give an overview of the information you have provided?

**Mr WARNER** - I understand the protocols and procedures that are bound by this committee. Realistically, my submission was fairly straightforward. I believe the Health department is doing a very good job but it is not its agenda. It is a bit like having the army trying to fly ships - two different departments need to have different inputs into the right areas, simply, rather than into areas that are foreign to them.

**CHAIR** - We have had some evidence today about the positive health benefits of hemp oil and food products. We have also heard today about a federal government trial to change canola to have similar properties. I don't know if you are aware of any of that work that is undertaken, or whether you want to comment on any of those matters.

**Mr WARNER** - I can comment on them. There probably will be an effort by the government's research institutions such as the CSIRO and other interested parties to try to find a solution to a need such as that which hemp oil could provide in its existing state. That is normal commercial practices.

The unfair issue in relation to the competition is that it is being used, that in fact legislative barriers are being thrown up from one end and there is no way of removing those without significant upheaval. It is really only Australia that has this problem with industrial hemp seed. Even in the US, although they tried to put some defence against it from the federal side of things, it still got through because of Supreme Court action, or whatever it was called. That proved there was no need for this particular attitude towards hemp seed.

I think it is not a level playing field by any stretch in relation to industrial hemp and the efforts made by other entities, be they naive government authorities within Australia, or clandestine or commercially-motivated interests from overseas. That is the reality. There is no reason for hemp seed not to be made a food and therefore would give it an open opportunity to compete with other genetically-modified or engineered plants.

**Mr ROCKLIFF** - Phil, you mentioned in your submission about the Health department - you said it does a good job in some areas - it lacks an empathy for agriculture when it is not its core business. You said in your view industrial hemp should be removed from the poisons list and put under the control of the primary industries department, and that is a similar thing that happens in New South Wales and Queensland. Is that right?

**Mr WARNER** - Correct.

**Mr ROCKLIFF** - And in your view that is one of the ways of moving this issue forward in the primary industries side of things, to have an economic developed focused department to manage this?

**Mr WARNER** - Correct. I think the fundamental issue, as everybody would know there, I think it is Article 28, paragraph 2 of the UN convention on drugs, which we are a signatory to. It omits industrial hemp used for horticultural or industrial purposes from the single convention. That in itself would therefore, providing the government or whichever institution is required to make or draw the appropriate line in the sand can say, anything under this level is industrial hemp and therefore not subject to the single convention. So that authority can call whatever level it wishes. It could be 3 per cent, 10 per cent, 1 per cent, or whatever.

Once the government of the day in the jurisdiction which has control makes that distinction then the cannabis plant or cannabis species or whatever that is under that limit, is then free to move out of the poisons act because it is now known as industrial hemp and move directly into another control if required. I would certainly suggest that all cannabis should come under some form of control but only for good reason. Essentially, the pathway is quite clear and is there to be able to make a distinction between industrial hemp and marijuana or a poison.

**Mr ROCKLIFF** - You mentioned a couple of areas that need to happen in terms of a licensing system, uniform testing, simplified regulations. If all this was taken care of and - turning to the first part of your submission where you talk a lot about the new commodity, per se, if the pathway was smoothed, what level of investment would your company be willing to make in Tasmania, or what is the economic potential for Tasmania? I am also talking about the commodity space here and how difficult it would be for Tasmania with relatively limited economies of scale, in some areas, to compete on a global market.

**Mr WARNER** - There are a few good questions there. First of all, our contribution to date has been well over half a million in investment into Tasmania, over the last however many years, by way of us participating in development of plant agronomy, trial crops, trial systems, such as cropping, harvesting, processing and even trial products, as in food products in the earlier days when we were working with Valhalla and other companies. Our past is there.

Our future contribution would depend on the ease in commercial opportunity that would be presented to us. I could not commit to that until I know what that is. So, that leaves us with what are the opportunities potentially. Naturally, it comes down to the capacity for growers to be able to produce a material at a price and for the industry, that is the hemp industry, to be able to show growers that if they grow this crop, they will be getting as good as, if not better, returns than an alternative crop that they may grow in location with whatever they are growing. So, just the normal commercial things come into play.

The food industry side of things is obviously tied up with all the other different states, territories and federal, so that is a bit of a hard one to predict, although, I don't hold out

strongly for that. If logic was to have any place in this, then it should be passed and Australia should fall into line with the rest of the world. However, that may not happen.

Insofar as the fibre industry goes, the hemp industry is fortunate in the sense that it does not need to have huge scales of economy to start but it must start at some stage. That scale is roughly in the vicinity of a mill that would cost about \$0.5 million and would be able to seek markets that are local and domestic, and possibly replace imports from either overseas or even from interstate. There is an opportunity there but it does need a capital and it does need commitment from growers so you cannot do one without the other. There is no point in building a mill without the growers and there is no point in the growers growing material without the mills. It is a typical new industry development catch-22 and those sorts of industries look towards some assistance in some form other than just everybody else being at risk and only then being at risk they look to spread the risk somehow.

As to our company being able to do anything in Tasmania, as I say it just comes up to particularly how the food laws fall. I believe if the food laws fell the right way then there would be significantly increased production down there.

I would also stress that we have worked very hard to create in the existing cosmetic market for oil and organic animal feed market for the seed meal a significant following of the Tasmanian brand, which I think should be protected at all costs. Nationally, and somewhat internationally, the Tasmanian oil is seen to be of a higher quality and superior so it has a more niche market and more attractive financially demand. There would be a good opportunity for that business to progress.

Within reason one cannot expect these things to become like a dot.com and that is an overnight success. It does take work and time and money to build these sorts of businesses. Nothing is going to happen overnight.

The long term prospective is quite simple. Essentially, I can tell you from a global perspective and maybe some of the people attending this discussion are not aware - our company is actually part Swiss/Australian joint venture and by far the majority of our production happens in Europe. I am certainly not in Australia anyway. The reason why we have that amount of production and those things going on is because of the increased demand for these types of fibres and sustainable resources.

Australia usually is about five to ten years behind in a manufacturing sense to the rest of the world. So if what is going on elsewhere in the world is any indication, there is likely to be a demand for these sorts of materials within the next five years or so within Australia. Unless we start building an industry now - and agriculture traditionally does not sort of spring up overnight, it takes a number of years - we will not be in a position to supply those materials, and we will end up importing materials we could be producing in Australia to feed that market.

The prospective opportunities are there. But, I think, in the modern day of government these days, it is more or less legislate and keep your hands off and just let it find its own level, which at least is one step forward. In reality, there needs to be all forms of assistance whether it is financial or otherwise, and 'otherwise' is just as lucrative in a way,

assistance in, for example, finding ways to get funding to improve food quality for fish or chickens or whatever.

There are many applications we have in Europe where you would not believe the opportunities that come out of that by being directed by a government agency to meet with a certain other organisation looking for a similar property, or something like that. It is a matter of coordination through industry to the right players in the business in Tasmania so government can offer many things other than finance. I hope that answers your question.

**Mr STURGES** - I want just touch on a key component of our terms of reference which is looking at matters impacting on the production of industrial hemp here in Tasmania. I note in your submission that you are of the view that industrial hemp should be removed from the poisons list and again you stress it should be put under the control of Primary Industries. You then go on in a couple of dot points under that - and I was wondering if you would care to elaborate - you talk about introducing a three- or five-year licensing system. You also suggest that there is a need to simplify regulations in relation to handling of seed crops. You quite rightly, and you do not need to comment on this, but you are also suggesting of the need for an informed media campaign to debunk the myths and espouse the benefits of industrial hemp. In particular, could you comment on the licensing system and the regulations that you think are impeding the growth of the industry in this state?

**Mr WARNER** - The period to which the licence is given is good for everybody not to have to repeat the same paperwork every 12 months. Essentially, most of the growers that are involved already have sufficient licences with poppies, or gun licences, or whatever. You do not have to renew your gun licence every year. There are lots of licences that you do not have to repeat every year.

Unfortunately for the Health Department, they can only repeat it every year; that is their mandate, they have to do that. Really the reason for renewal of licences every year is just a hangover from the way the pharmaceutical industry is regulated rather than an agricultural industry. It is less work for government and less work for the grower. You are cutting your costs of licensing by two thirds - a good economic thing to do if you can do it. That falls in line with most other states and regions rather well. They tend to give three yearly and in some cases five yearly licence. If the licence is breached in some form then the licence can be taken away.

What happens in New South Wales, and Queensland slightly different, you have a licence and then to grow you have to send in another cheque and say that you are growing this year. In New South Wales, you have a licence but you have a sort of growing permit that is additional. In Queensland, there is no growing permit that is additional there is just notification that you are growing in this area doing X, Y and Z. I am not sure what happens in Western Australia. Victoria is different again and the ACT has some laws but I do not think they have ever been used.

**Mr STURGES** - That is informative. You have made mention in your submission the need to simplify regulations in relation to handling of seed and crops. I was just wondering if you would care to elaborate on that for the benefit of getting your comments on *Hansard* so that we can review it when we are writing up our report.

**Mr ROCKLIFF** - On that also, Phil, the reason why a company such as yours would persist with Tasmania rather than other states. What the distinct advantages are? You have touched on them with the quality and the climate and the like, but if you could expand on that.

**Mr WARNER** - Very quickly, in the relation to the additional paperwork to having seed, for example, you grow a crop, you have a licence to grow a crop but you do not have to have a licence, or you should not have to have to have a licensed subcontractor come in there and spray it or harvest it, or transport it for that matter. They are all acting as a subagent of your licence. The same should go with cleaning and to even some extent storage. At present almost anybody who touches it - if this was a drug, the Health Department has to work within the act it is in and its protocols. Because it treats the seed like a drug it cannot delineate in certain areas. Even though it is being held or processed or cleaned by a processor or a cleaner, they also have to have a licence even though they do not own the seed and they are performing a service. In most other states it is recognised those entities are subcontractors or service providers therefore do not have to hold a licence because they are working under the licence of the person who has supplied the seed who has a licence.

It reduces the amount of paperwork that has to be administered and the cost. It works adequately in other states and would overcome a whole lot of additional paper-trail problems. That is to do with all the subcontracted services that are basically issued. We have to have people who have licences when they really do not need to have them. In Queensland or New South Wales, we don't have that problem.

The additional benefits in Tasmania to this: there is also another aspect of hemp production that, should the fibre industry get going, there are enormous opportunities with that. I will give you an example. In Europe, we are embarking on a fairly major campaign at the moment. I am glad this is confidential, but we are -

**Mr STURGES** - I think we need to pull you up there - sorry, the Chairman will tell you.

**CHAIR** - That is okay. At the moment, we are in a public component of the committee. If you want to -

**Mr WARNER** - All right, I will put it in a public way then. Essentially, we are working on a project that will utilise the majority of the plant in a form that competes with another substrate for horticultural production. The value of that is quite substantial. In Europe, they have about 10 000 hectares under glasshouse production. They use all different sorts of mediums or substrates to grow their crops. I am not suggesting that is what is going to happen in Australia; I don't think we would put 10 000 under - but you never know, I suppose. The new technologies coming through that are using this biomass are quite substantial.

If we want to really look at how we can improve agriculture, what we need to do is look at it as an industrial product rather than just a food product. When you take the view that you are actually producing something which might come from the ground but has the capacity to actually become a material supplied stream into industrial applications, then you get a completely different view to just being something that goes on a plate and goes

out to someone to eat. It is a very different perspective and that is where basically agriculture is needing to go globally.

I won't go on with this but if anybody there, at any stage, wants to Google the word chemurgy, you will realise that people like Rudolf Diesel, who invented the diesel engine, wanted it to be dependent on vegetable oils, not diesel oil. Those things were all invented around that. They were all chemurges. Their whole thing was that the Industrial Revolution and the industrial future for the globe was going to be dependent upon agricultural supply materials, not as we presently are at the moment. They were wrong; obviously that did not happen and synthetics took over and so on.

We are looking at a newborn generation of industrial products which are going to be derived, rather than from hydrocarbons, from carbohydrates. Same carbon and hydrogen but just produced from different sources. That is the future.

I believe anywhere that can turn its hand to this sort of production - it may not have to be just industrial hemp; it might be a whole lot of other series of crops. There are other ones out there but that is potentially one of the future sources of income for agriculture and one of the future sources of material for industry.

**CHAIR** - Okay. Thank you very much for your submission today and for the evidence that you have provided. We are getting close to finishing off. Was there any further information that you might want to pass onto the committee today before we wind up?

**Mr WARNER** - No, nothing other than I was asked before whether Tasmania has the potential, not necessarily to compete but certainly contribute and even be separate to production from elsewhere - I believe you can't know that until you really give it a go and you will find all sorts of things come out of the woodwork at you and that give the extra benefit to Tasmanian growers. It's no lay down misere here; it is a matter of effort and then reward, rather than we know what we're doing before we get there. There is obviously a domestic market which Tasmania can capitalise on; that is already known. Whether there are other markets you can capitalise on, no one will know until it gets up and running.

**CHAIR** - Thanks very much, Mr Warner. Whilst I appreciate you are familiar with these sorts of processes, I reiterate my earlier comments that once we go off *Hansard*, which we are about to do, you no longer have the privilege of *Hansard*. Thank you very much.

**Mr WARNER** - Okay, no problem.

**DISCUSSION CONCLUDED.**



DISCUSSION BY PHONE WITH Mr ADRIAN CLARKE, DIRECTOR, TEXTILE AND COMPOSITE INDUSTRIES PTY LTD.

**CHAIR** (Mr Best) - As chair of the committee I need to go through a procedural matter for you. Because you are interstate we won't be swearing you in, but you are on *Hansard* and what you say is protected by parliamentary privilege. If you want to comment outside the committee, you do not have that protection. If you want to discuss anything that is commercially in confidence or there is something you want to talk to us about that you don't want publicly announced, you need to indicate that to me and we will go into camera to make sure anything we discuss is not publicly made available. We have your submission and we thank you very much for that. Would you like to make some general comments before we have questions from the members?

**Mr CLARKE** - The most general comment I can make about wanting to have a hemp industry is that you have to have a decorticator. If you don't decorticate the hemp, you can't do anything with it. You have to separate the hurd core from the fibre. That is the first issue. We have spent the last 20 years developing a very low-cost, very efficient decorticator. The next general comment is that it would create a complete industry for us all, in all states, if the hemp food issue was resolved and we could have hemp food as a product in Australia so that we can use it here and export it.

**CHAIR** - We had evidence today from a witness who is involved in that federal food matter with FSANZ and they are indicating that they are looking at December this year. We have also had evidence today that indicated there could be a viable industry without the food component in the fibre as well.

**Mr CLARKE** - Yes, there could well be, but my experience with investors has been that they have wanted to see the three legs of the stool rather than just two. If the investment is coming from government or has government support, that becomes a non-issue and we can get on with a very viable hemp industry with the hemp hurd for building and the fibre for composites and textiles.

**Mr ROCKLIFF** - I was very interested in your submission, Adrian, particularly around some of the figures you were producing of potentially \$1.5 billion to \$3.5 billion for Tasmania. Could you put some more detail around where you got those figures from?

**Mr CLARKE** - I think I put in the report I received from a consultant under the name of Raffix - his name is Robert Frank from Britain. He is the senior consultant for the textile institute in Manchester. He came out to Australia to study what we did. He saw what we were doing at Deakin University at the time it had the international fibre centre that was set up by the Liberal Kennett Government. He saw us convert fibre from the field into a spinnable fibre, which was then spun. He then estimated the value of our fibre - this was back in 1999 - on the basis of the fibre compared to cotton, knowing that cotton is basically at peak production and has been for 20 years. There has been a growing gap between the demand for a grown cellulose fibre and cotton, and that gap has been getting bigger and bigger and in that submission he gave us there was a little chart. It is being filled by synthetic fibres based on petroleum.

He says that hemp could fit into that gap and then he calculated what that would be worth based on it being sold like a commodity at around cotton price. He came up with those very high figures based on what we should be able to achieve within five years of getting a proper start. Of course those figures frightened the hell out of the cotton industry who misunderstood and thought we were competing with them, not filling the market gap that they cannot reach.

**Mr ROCKLIFF** - What distinct advantage in your mind would the growing of hemp in Tasmania be against any other state?

**Mr CLARKE** - Well, you can't grow cotton in Tasmania, you can't grow it in Victoria either, but you can grow hemp there. That is number one. Number two, the average cotton fibre yield per hectare is around 1.5 tonnes. We can produce around 3 tonnes of hemp fibre per hectare and we do it with significantly less water.

**Mr BOOTH** - Adrian, what was the tonnage per acre you suggested you would get in terms of fibre?

**Mr CLARKE** - Around three seems to be the average. We have had crops that have only had one and we have had crops that have had five.

**Mr BOOTH** - Is that a dry tonne?

**Mr CLARKE** - That is a dry tonne, yes. We only give these estimates as a dry tonne, though we do like to harvest it when it is green and wet.

**Mr BOOTH** - Is that after it has gone through that decorticator or whatever you call it?

**Mr CLARKE** - Yes, that's right.

**Mr BOOTH** - So that's actually the yield of usable, spinnable fibre - three to five tonnes?

**Mr CLARKE** - That's right, yes. It has gone through our decorticator and then we might lose 5-10 per cent through the de-gumming system but then it is ready to spin on standard cotton machinery, which is totally and utterly different from the traditional method where they can actually only recover about 10 per cent of the fibre for spinning and it takes months and costs a fortune and you have to have specialised longline wet spinners for it.

**Mr BOOTH** - Is that because of the decorticator machine?

**Mr CLARKE** - Because of that, our method of decorticating and de-gumming that we developed at Deakin University and the International Fibre Centre in Geelong during 1999-2000.

**Mr BOOTH** - What sort of site quality are you growing it on? Have you got an indication of the soil class or irrigation and fertiliser inputs to get 3 tonnes a hectare?

**Mr CLARKE** - I am not an agronomist. My agronomist worked all those things out a long time ago and you have many very good growers of hemp in Tasmania that could tell you those things. The rule of thumb is if you have poor soil you grow poor hemp, if you have

good soil you grow good hemp, and we use somewhere between 10-20 per cent of the amount of water that cotton would use per yielded tonne of fibre. It is a perfect crop to grow, either organically or biodynamically.

**Mr BOOTH** - Do you have any use for the hurd out of it after it's gone through the decorticator?

**Mr CLARKE** - The hurd is the perfect building material and there are houses being built of it in Tasmania at the moment. I think they are having a few teething problems about how they mix it for Tasmania as opposed to other places, but I have seen houses built of it in England, Ireland, Wales, France and Italy.

**Mr BOOTH** - What is the yield per tonnage? If you've got a three-tonne spinnable fibre crop out of a hectare, how much useable hurd would you get?

**Mr CLARKE** - There is usually seven tonnes; it is usually a 7:3 ratio. That is when we were growing the Kompolti variety. I am up here in northern New South Wales and we're using a variety that was developed here by Patrick Calabria called 'Frog', and we seem to be getting 50:50, which is very unusual.

**Mr BOOTH** - Is that a very high yield, you're saying?

**Mr CLARKE** - A very high yield of very high-quality fibre.

**Mr BOOTH** - So you would still get 10 tonnes total of hurd and fibre?

**Mr CLARKE** - Yes.

**Mr BOOTH** - On top of that, would you get some value from the seed or do you not grow it through to full seed?

**Mr CLARKE** - We can grow it through to full seed; that is called dual crop and we can grow it through to seed and then you get the seed value. When you take it right through to seed the fibre gets slightly thicker and shorter - this is the ultimate fibre that we go for after de-gumming - and it has a bit more lignin in it, so it is a little bit more difficult to de-gum.

**Mr BOOTH** - Right.

**Mr CLARKE** - If we take it before that we get a longer, finer fibre. It's just a matter of whether it's triple A or double A quality. It is not a big difference. You also then get the benefit of the seed but you do have to grow it for quite a bit longer to get through to the mature seed.

**Mr BOOTH** - Have you any other indication of value for food? Would that be from the hurd part?

**Mr CLARKE** - The food comes from the seed part and the hurd is used for building materials. In Europe it they use it extensively for animal bedding because there they take their animals inside, and in some parts of Tasmania you do too. The hurd can also be

rendered into a fuel alcohol. That is a whole other issue and there is a bit of science around that some of my associates have that can do that. It can also be made into a very good paper. You cannot make paper from rettered hurd but our hurd is un-rettered therefore it can be made in to paper.

**Mr BOOTH** - Right, okay.

**Mr CLARKE** - The bast can be made into paper as well but it's a different quality of paper. Most bank notes in the world were made in France from the bast, that is the fibre, and a lot of art paper was made from the hurd. That was special hand work because they could not decorticate unless it was rettered in the old days. We have totally changed the whole innovation of hemp by being able to decorticate it un-rettered, either green or dry. We developed this in Victoria.

**Mr BOOTH** - Do you have any commercial uptake in this system, either here or overseas?

**Mr CLARKE** - I have had mainly criminals trying to steal the IP from me, one way or another. Once they realise its value they just want to cut me out and steal it, and I've nearly been bankrupted three times by such attempts.

**Mr ROCKLIFF** - Adrian, your submission refers to the establishment of regional cooperatives to help farmers address issues such as processing and value-adding on or near a farming district, and you use the term 'low-cost decorticator'. Firstly, what is a ballpark cost?

**Mr CLARKE** - If you want to buy a decorticator from Europe it will cost you somewhere between \$10 million and \$20 million.

**Mr ROCKLIFF** - Geez!

**Mr CLARKE** - That is for a decorticator that will take in rettered hemp, hammer-mill the hell out of it and give you hurd that you can use for building and so on and fibre that is used by Mercedes-Benz and BMW and now Ford in Europe to make car parts. It cannot be spun into any textile because it is hammer-milled. We have just sold a decorticator to a communal group in New Zealand for \$55 000 and a 20 per cent share in their cooperative. We are negotiating to do the same in northern New South Wales and in other places.

We are giving the decorticator virtually for cost plus a margin, as long as we have a share of the cooperative, and that means that we are involved in the marketing of the goods. As far as marketing the fibre and the hurd is concerned, if we still had a spinning mill in Australia we could take it right through to cloth. Bruck in Victoria are willing to weave it and there are various knitters around and some wool people who are prepared to have a go at spinning it with wool. When I started in this industry we had Rockleigh Spinners as strategic allies who were going to do all the spinning for us, but when their financiers discovered they were spinning hemp they closed them down. They marched in, closed them down, seized all our fibre, seized everything, and that was that.

**Mr BOOTH** - Why do you think they did that?

**Mr CLARKE** - Because they are the biggest financiers of the cotton industry; this is what I am told, and the evidence of what happened makes me think it is probably true. They were the biggest financiers of the cotton industry and they cannot abide the idea that hemp might be a competitor, particularly if we can grow it in Victoria and Tasmania.

**Mr ROCKLIFF** - So the regional cooperative idea really is because you developed a system where it is a lot lower cost in terms of capital investment -

**Mr CLARKE** - Yes.

**Mr ROCKLIFF** - compared relatively, quite significantly, to other parts of the world.

**Mr CLARKE** - That's right. I spent some time with the senior designer of AGCO in Britain - that is the old Massey Ferguson - and their idea was of putting it inside a harvester. We once put it inside a harvester ourselves and it worked very well. We have since put it on the front of a header, and that worked moderately well, but we had trouble with the cutter, and now we have resolved that. That becomes a green harvesting decorticator and it will do the same volume as a €10 million European plant, but the fibre is better quality, it is stronger for composites and it can be spun. These are the differences, and it harvests and decorticates at the same time.

I have been to Europe to demonstrate green decortications and they have accused me of sleight of hand because it is not in the books. I have shown it to them until I am blue in the face and they still say it is impossible, therefore what they have seen isn't real. Fortunately in Australia we have more imagination and there are people getting on with it, including New Zealanders.

I have grown several crops in Tasmania, one with the University of Tasmania and several in other places - I can't tell you off the top of my head where they were now, but they were very successful. There was one in the north and one with the University of Tasmania, so we know there is no limit to how much can be grown down there, no biological or agricultural limitation to it at all.

**Mr ROCKLIFF** - Is the decorticator you have set up in New Zealand a stationary one?

**Mr CLARKE** - For small crops we would initially set up a stationary one. I have one like that not 40 yards from where I am sitting now, and we are about to start running it again, but that same machine could be plucked out of the stationary frame and put into a harvester of some sort that we are devising in Victoria at the moment. I did go to do some work with an engineer in Devonport but the funding fell through. However, we did a lot of work towards putting one in a harvester down there and that could be done too. The decorticators are a unit that's about the size of a Fiat 500 or less - like a large couch. They can be put in various forms of harvesters from quite large ones to quite small ones, depending on the task and the landscape. The total cost for that is around \$200 000 to \$300 000. It's still substantially cheaper than a \$20 million unit that you can get from Europe which provides you with very poor quality fibre.

**Mr ROCKLIFF** - I am just going to make comparisons between the poppy industry and the hemp industry for a moment and its harvesting capacity. With poppies, if the crop is dry, which it has to be when it's harvested, it's very quick to do, say, a 10 hectare paddock.

**Mr CLARKE** - Yes.

**Mr ROCKLIFF** - When the decorticator is on the harvester, if all things were going well, how quickly could you harvest a five hectare crop, for example?

**Mr CLARKE** - We have designed our decorticator to do about a hectare an hour. That is harvesting it and decorticating it, so you've gone from a product that has no commercial value to two products that have significant commercial value within that step.

**Mr ROCKLIFF** - Right. That's pretty quick.

**Mr CLARKE** - Yes.

**Mr ROCKLIFF** - That's good because I'd imagine that a very good investment of \$200 000 or \$300 000 dollars, including a decorticator, could possibly do a number of regions around Tasmania over a period of time.

**Mr CLARKE** - Yes.

**Mr ROCKLIFF** - What window of opportunity is there for harvest capacity in that green stage?

**Mr CLARKE** - Usually the best time to take it in its green and most succulent sort of form is just between the onset of male flower and seed set, which is about three to four weeks. That's if you are going for triple-A textile fibre. If you're going for composite fibre or double-A textile fibre and seed, grow it through to seed and we've got a much bigger window of opportunity.

**Mr ROCKLIFF** - Can you harvest in the wet?

**Mr CLARKE** - Yes, it doesn't matter if it's raining.

**CHAIR** - Ate there some final comments that you might want to make?

**Mr CLARKE** - I've done many business plans to come into Tasmania and many times I've misfired, usually because somebody said, yes, we were going to give you the money but now, before we do, you have to assign all patents to us. It's been a joint venture or a licence arrangement up until that time so we've had to walk away. Once they realise the value of it, all they want to do is take it. That's been our problem. I did once go through an exercise with the Tasmanian government many years ago and suddenly all communication ended. I was subsequently told by one of your ag people that two men from the DEA came out from America and visited the poppy fields. The words that were referred back to me - and how accurate this is I cannot say - were that if you want to keep your poppy industry, don't work with Adrian Clarke and his decorticator.

**Mr BOOTH** - Have you got any written information on that at all?

**Mr CLARKE** - No. I did have some correspondence but it was all on the computer that crashed. I was working with one of the senior public servants who was representing the Minister for Agriculture at the time and suddenly all communication ended.

**Mr ROCKLIFF** - What would their motivation be?

**Mr CLARKE** - This is many years ago. Remember, the Americans like to say hemp is marijuana because that is in their statute. That is why the rest of the world was forced to ban hemp, because the Americans decided the lie that it was marijuana. Only a few people in the western world resisted that lie. One was France which said, 'You are stupid and lying and we're not going along with you'. Chile was another country. All the rest of us went like sheep and agreed with them in their lie.

**Mr BOOTH** - Was that to protect the oil industry?

**Mr CLARKE** - It was to protect the cotton industry and the oil industry and it all coincided with the time Henry Ford made a car body out of hemp. The steel industry went absolutely into panic mode because in 1937 that was 80 per cent of their market. At that point they decided to conflate the two, do marijuana-madness type films and make marijuana appear to be a worse drug than heroin - which you grow jolly well down there in Tasmania - and ban the whole lot. They had hemp growers voting to ban marijuana, not realising that the law had conflated the two and defined them as the one thing. I have been in this debate for a very long time. Most of the work that has been written on it, I wrote in the early 1990s. My brother and I were the ones who approached Jeff Kennett, the Liberal Government in Victoria, and provided all the arguments and history of that. Jeff Kennett's own advisor, a historian named Paddy O'Sullivan, confirmed a suspicion I had that prohibition was brought in to stop farmers making fuel ethanol out of hemp hurd. I said, 'I have this suspicion, Paddy', and he said, 'Give me three weeks and I'll get back to you. I was a professor of history throughout different universities in America and I will find out'. He came back and confirmed that that is why prohibition was brought in - 80 per cent of all the illegal alcohol was created on farms to Henry Ford's recipe to drive cars.

The other issue that is happening at the moment is that Monsanto owns the cotton industry and it does not want hemp.

**CHAIR** - Thank you for your submission and your time today, Mr Clarke. Obviously the committee's interest is to look at the industry and I think different members will be thinking how that could be moved forward in Tasmania. Hopefully, if things work out, we would like to have your machine operating down here.

**Mr CLARKE** - I would love to have my machine operating down there again, too. I have taken machines down there.

**CHAIR** - Thank you very much, Mr Clarke.

**DISCUSSION CONCLUDED.**

DISCUSSION BY PHONE WITH Ms LYN STEPHENSON, PRESIDENT, INDUSTRIAL HEMP ASSOCIATION OF VICTORIA.

**CHAIR** (Mr Best) - Lyn, thank you for your submission. As chair of the committee I need to advise you that any information you provide is protected by parliamentary privilege but anything you repeat outside the committee is not. If there is something commercial-in-confidence or something you don't want publicised, if you indicated that to me we can take that evidence in camera if you did not want that information made public. Do you wish to make some general comments?

**Ms STEPHENSON** - I have read the Hansard rules that apply here. I established the Industrial Hemp Association of Victoria in 2009. After having researched the potential of hemp for the previous 10 or more years, I could see that formalising an association was the only way to make a difference. I am also a founding member of the Tasmanian association and the New South Wales one. Victoria passed legislation in 1998 legitimising the growing of hemp and that was followed closely by Tasmania.

The United Nations Single Convention on Narcotics differentiated between hemp and marijuana and this means that hemp is not a drug. This seems to be the fundamental problem of getting any industry legitimised in Australia because politicians seem to believe that hemp is a drug. Concerns that the legalising of hemp food would send mixed messages to consumers are, in my view, a complete furphy. Every Australian state, excluding South Australia, has licensing in place to grow hemp. Why then would this occur if there were no viable opportunities for an industry? Canada introduced licensing at the same time as Victoria, 14 years ago, and they have developed a multimillion dollar industry largely based on food. Unfortunately, political convenience has driven a campaign of negativity in approving hemp food in Australia. Instead, resources could be put towards educating the health benefits of hemp seed.

With an existing narcotic industry in opium poppies in Tasmania, Tasmania is well placed to lead Australia in developing an industrial hemp industry. I believe this can be achieved by, but not limited to, investing in research and development to develop more seed varieties that suit the Tasmanian climate; working towards streamlining the THC testing process to allow testing in Tasmania and reduce costs for farmers; encouraging investment in processing infrastructure; and supporting the food application when the FSANZ again recommends approval. Interestingly, FSANZ has twice found no health detriment to hemp food.

Successful new industries in Australia have always enjoyed financial support from government so why would hemp be any different? All levels of government, I believe, need to communicate better on this issue. There is significant disparity in governmental attitude. Tasmanian Health is a supporter of legalising food and the parliament, having established this committee to promote the hemp industry, is in support of hemp generally, but Tasmania Police is against it. The Australian Quarantine Service has no problem with importation of hemp seed food but the food is prohibited. The Tasmanian government in this issue can make a difference. Thus far, FSANZ and this parliamentary inquiry have required industry proponents to provide supporting evidence of their stance. FSANZ has received over 200 submissions, and I believe there were 25 submissions to



the Tasmanian inquiry. Most submissions support hemp and provide evidence in support.

The submissions that are against hemp have provided no substantiation of their claims and should be requested to do so. That is about it in a nutshell. I could talk for a long time but I am happy to answer questions.

**CHAIR** - Lyn, I don't think this committee has received any negative submissions, so that is interesting in itself. Before I hand over to other committee members, was the article you were talking about 28, paragraph 2, of the UN Convention? We had some other witnesses talk a little about that today. If so, whichever article you are referring to, has your organisation sought any qualified legal advice about those clauses?

**Ms STEPHENSON** - We have not and I guess that goes back to my point about us in the industry having to substantiate everything we say. The Industrial Hemp Association of Victoria is a 'not for a profit'. We have limited resources. I volunteer all my time without any recompense as does all the other hemp industry associations in Australia. So we have no resources to put to this legal -

**CHAIR** - That's okay. I haven't got into the inner sanctions of United Nations but I am wondering what might happen if an individual or an organisation writes to seek their view - they may not provide that in relation to another country, I don't know. That might be interesting in itself.

**Ms STEPHENSON** - Yes, that is a good point. Australia is a signatory to that convention so whoever in Australia manages that ought to be held to account too.

**Mr ROCKLIFF** - You mentioned a list of people who are supportive of the hemp industry. You mentioned the police are the ones who are against -

**Ms STEPHENSON** - Yes.

**Mr ROCKLIFF** - What information do you have, either written or verbal, as to reasons why the police would be against the establishment of such an enterprise?

**Ms STEPHENSON** - I included in my submission to this inquiry a statement from the Tasmanian police which was submitted to Food Standards Australia and New Zealand and that lists that they have public perception issues and enforcement issues in terms of drug testing.

**Mr ROCKLIFF** - Thank you. You also mentioned the critical mass issue. I am trying to get a handle on how big the potential markets are. I notice that you are the President of the Industrial Hemp Association of Victoria and obviously would like to see Tasmania establish a reasonable business enterprise with respect to industrial hemp in Tasmania as well. Some businesses in Victoria might not want Tasmania to go forward with this issue and guard very jealously the potential for the Victorian state. But putting aside the need for FSANZ to relax its regulations around food, you obviously see, as part of that critical mass, the states combining and having a reasonable market?

**Ms STEPHENSON** - Yes, I do. I established the association in Victoria because I live in Victoria. My passion is to see hemp a mainstream co-op in Australia. If Tasmania manages to secure a growing industry and leave Victoria behind, so be it. I am keen to see some healthy competition.

**Mr BOOTH** - How rapidly do you think you would get grower returns and industry take-up were the regulations through FSANZ and so forth changed to allow its production, its growing for food production in particular?

**Ms STEPHENSON** - It is hard to estimate given the different legislative framework in each state. In frustration that the food is not approved, there are many entities working on alternative uses for hemp in the fibre category so building products and textiles.

Food would give farmers a more immediate return. In fact, Tasmania's farmers in the north of Tasmania have been growing the oil seed ostensibly for pet food and sending that across to a processor in Victoria which cold presses the oil and sends it out to the people who originally contracted to grow in Tasmania. That oil is in fact being sold to individuals on the internet. There is nothing stopping those individuals who buy it to be consuming it as human food.

Once it is approved I think there is a massive market. There is a very large - very, very large - food producer in Australia interested in including hemp seed in their products and they are working - and this is on a confidential basis. I could give you the name of the hemp industry person who is involved in those negotiations separately but this is a cereal food breakfast cereals, muesli bars, health foods, all of that sort of thing, a very, very large company.

**Mr BOOTH** - It might be worth noting there I suppose, Chair, that we get that evidence in camera if she could provide that to us.

**CHAIR** - Yes.

**Mr BOOTH** - It might be worth our while following it up.

**CHAIR** - We might do that in a minute.

**Mr BOOTH** - Just another question following on from that. With regard to commercial experience in other jurisdictions that do not have these restrictions like New Zealand and France, presumably they can grow it for food as well?

**Ms STEPHENSON** - Yes. I have personally purchased hemp food products in France, Germany, and Spain. I believe they are available readily in health food shops in the UK. I have purchased food products in supermarkets in the US even though the US prohibits growing hemp and much of the Canadian export industry is to the US. The US imports all of its hemp seed food from Canada.

**Mr BOOTH** - What is the commercial industry like over there? Can you give us an example of the value of this as an industry? It might be interesting, I suppose, Jeremy Rockliff commented a moment ago in regard I think comparing it to the poppies. Is there some sort of a commercial value then in comparison with other crops? Is it easier? Do

farmers make more per hectare out of it? Does their land need less fertiliser or something? Can you give us a bit of detail on that that you know of?

**Ms STEPHENSON** - I understand that the Canadian industry is currently worth about \$500 million. Applying the Canadian experience to Australia only works to a point because Canada exports to the United States. Our export would be to Asia and it would be a different market. I do not know what the possibilities are. The other thing is that pesticides, herbicides - hemp does not require any kind of encouragement to grow. It does not require fertiliser at all. It grows in 90 to 100 days. It self-mulches because the leaves drop and because it grows so fast it out-competes weeds and the lower leaves drop and mulch the ground. There are farmers in the Hunter Valley who have successfully eradicated weeds that they otherwise had difficulty doing with two crops one after the other of hemp, just to suffocate the weeds. There is a little bit of evidence in Australia, recent evidence in Victoria, where there is a grub whose name escapes me, and they have had to apply a bit of eco-pesticide to eradicate this grub. Again, this is all experimental. All of the crops that have been grown in Australia in the last 10-15 years are only trial crops. Farmers are still experimenting, so to try and get a commercial application is difficult. We need more funding, we need more interest from government and investors to try to grow the industry, in exactly the same way that wheat started in Australia.

**CHAIR** - In one of the submissions we have received there is a recommendation in Queensland where a working committee was put together involving agencies and grower representatives to have the legislative framework drafted. Would you be able to make a quick comment about that - are you familiar with that? Do you want to make some recommendation about how we could progress those issues?

**Ms STEPHENSON** - How recent was the working group you are talking about?

**CHAIR** - I do not know, there is no date in here, but it says that in Queensland there was a committee that was set up, the Industrial Hemp Advisory Committee, which oversaw the drafting of legislation in Queensland. It was made up of departments of police, health, Attorney-General, primary industries and the Premier's Office, as well as growers representatives, research organisations and other experts. This committee will deal with the drafting of future legislative frameworks for a Tasmanian hemp industry. That was the suggestion.

**Ms STEPHENSON** - I would say that is a submission.

**CHAIR** - The expected outcome is six months, so maybe that is where it is at in Queensland at the moment.

**Ms STEPHENSON** - Yes, I am guessing you are reading from a submission by the Queensland Industrial Hemp Association.

**CHAIR** - I do not think it matters if I say it is from Mr Warner, a public submission.

**Ms STEPHENSON** - Phil Warner, okay. He would be the pre-eminent authority on the hemp industry in Australia. He has been working on hemp for over 15 years. He is based in Queensland and he would be more up to date on Queensland matters.

**CHAIR** - As a process, do you think that's a potential way to move this thing forward?

**Ms STEPHENSON** - Yes and no. I am not sure about the Tasmanians basing their attitudes and so forth on the Queensland activity. It might be easier up front, but I think that the Tasmanians, particularly the farmers and the Tasmanian Farmers and Graziers Association, have a good handle on how the industry could move forward.

**CHAIR** - Okay. Because of time I have to clear the room whilst we go into camera so we can hear the matter you raised earlier regarding a national company that might be interested in hemp.

**Ms STEPHENSON** - Sorry to do that to you but it was told to me in confidence.

**CHAIR** - That is fine. I am pleased that you advised us. What goes in camera will remain that way.

*Evidence taken in camera.*

**CHAIR** - Kim, you had a couple of quick questions about weeds.

**Mr BOOTH** - I'm wondering if you've got any information regarding the proliferation of wildings or weed spread as a result of hemp. This person cited a trip to Canada in about 1990 and provided some photographs to me of quite heavy weed in hemp infestation running across areas of paddock and bush and so forth.

**Ms STEPHENSON** - I am aware that there are studies. The US government spends a lot in eradicating what they call ditchweed, which is hemp that was self-sown just after the war years, after the American government stopped paying farmers to grow hemp for the war effort. The paper that I saw recently was written a couple of years ago and it was trying to dispel many of the myths of hemp. One of the comments that it made was that so-called ditchweed is harmless, has not affected any of the native flora, provides habitat for birds and small animals and so forth. They do not see it as a major problem. The reason that the American government is trying to eradicate it is because of the use that keeps being perpetuated of the dangers of hemp becoming marijuana or hemp regressing somehow, which just does not happen.

**Mr BOOTH** - So you are not aware that the elimination of weed, either in a paddock or off paddock after you have finished growing it in the paddock, is an issue in terms of commercial production?

**Ms STEPHENSON** - No, and again you could ask the Tasmanian Farmers and Graziers Association. The Tasmanian legislation to grow, and it is similar in other states, requires complete destruction so that they are not allowed to self-seed. The fibre crop is taken off before seed set anyway so that is not an issue. And after seed set they have to properly clean their harvesters and there is a process they have to go through to ensure it is not self sown. Having said that, canola seems to manage to establish itself quite readily, as does wheat, barley and any of the other crops.

**Mr BOOTH** - That is the point I am making. We have GE-contaminated canola sites around Tasmania that been contaminated since 1997 or thereabouts so these things can be a

problem. I am interested and concerned to be sure that if we find in favour of this as a crop, and we have had a lot of good evidence to that effect, that weeds are something we need to take into account.

**Ms STEPHENSON** - On that GE or GM issue, there is no genetically modified hemp in the world. The hemp industry worldwide is against genetic modification.

**CHAIR** - Have you heard of a decorticator?

**Ms STEPHENSON** - Yes, I have. There is one in Australia that I am aware of it and I have seen it in operation. It is devised by a Victorian company. It is developmental. There has been a series of this machinery and each time it gets modified. The developer requires further investment to continue his developmental work. On the face of it, it does work but to bring it to a commercial scale requires a lot more investment.

I am mindful that you are doing a lot of research and I would be more than happy to produce more evidence or speak again if required. You have a lot of information to go through and there is a big learning curve because you have not been attached to the industry at all, so if you can go back to some of the core players in the industry in Australia with more particular questions then I would be happy to help co-ordinate that or be of any assistance that I can.

**CHAIR** - We are waiting on agencies and I think we will be getting information from them a little bit later so we might need to test some of those things. If we need to we might come back but we do appreciate your advice and information.

**Ms STEPHENSON** - Yes. I would strongly recommend that you consult FSANZ if you have not already done so.

**CHAIR** - Yes.

**Ms STEPHENSON** - I know they did not submit. I do not think they would but if they are requested to be a witness at the parliamentary inquiry I do not think they can refuse, can they?

**CHAIR** - No, probably not. Thank you very much.

**Ms STEPHENSON** - You are most welcome.

**DISCUSSION CONCLUDED.**

DISCUSSION BY PHONE WITH Ms BEATRICE KUYUMGIAN-RANKIN, PRESIDENT, AND Mr RAYMOND RANKIN, INDUSTRIAL HEMP ASSOCIATION NSW.

**CHAIR** - We thank you very much for your contribution. Any evidence you provide today is protected by parliamentary privilege. However, if you repeat anything outside of this committee hearing obviously you are not afforded that protection. If you wish to talk about any matters that are commercial-in-confidence or of a sensitive nature that you think may affect another party or may cause some sort of issue, if you could let us know so we can go into camera and we will treat that evidence as not public.

**Ms KUYUMGIAN-RANKIN** - Yes, of course. First of all, thank you very much for bringing this situation to this point, that you actually acknowledge the presence of the public and ask for submissions, because it has been quite frustrating for someone new, like me, in the hemp industry. I've only been in it about 12 years and it was totally by chance. I'm trained as a classical musician, a pianist, but when I met my husband and he mentioned hemp and how good it was, it was just looking into it and studying it a bit more that I realised it can actually take care of some of our basic human needs - food, fibre, shelter, energy and plastics, all in an environmentally-friendly way. When I found that it also can replace anything made of cotton, timber and oil, at the time there was nothing on the market that actually displayed any of the benefits of hemp. It was always associated with drugs or hessian bags, so with my family having come from a business background, I felt that there was really a need to inform people and create beautiful things.

Not coming from a design background, what we did was import, as we don't have a choice. There are no hemp textiles produced in the world except in China, in the finer quality. We imported textiles this way and tried to enthuse the Australian design colleges, universities, designers and manufacturers to manufacture with us. Now we have created a market and demand, appearing in a design magazine almost every month. Now with the building products coming up and all the universities doing research and development on alternatives to polluting, I thought it was about time to establish the hemp association with like-minded people.

We see the necessity, not only regionally because our country is really big, but for seed breeders, growers and farmers that have these conditions, it's really time to connect. It is the year of the farmer so we have to support farming. When disaster happens, we really have to secure our food security for future energy. I really believe hemp is a solution, bringing together the farmers and seed breeders with the departments of primary industries, working with regional development and IHAs all around nationally, connecting supply and demand with industrialists, bringing ethical investment, government infrastructure money and being self-sustainable. I don't believe in 2030, 2050, that we are going to be able to import everything from outside.

Regarding textiles, it was quite sad to see that we don't have one single spinner left in Australia for spinning our wool. We have to bring it from Korea, New Zealand, Turkey and China. That was another passion, meeting people to actually put their own money into bringing machinery from New Zealand to restart the whole textile industry, at least with our own wool. I'm bringing the hemp from China to try to blend it with Australian

wool and alpaca to at least be able to do some niche products here for the European markets whose economy is much stronger than other parts. For example, Switzerland and Germany is where our market for our textile is. That's the background that we bring forward.

**Mr ROCKLIFF** - Beatrice, thanks very much for your detailed submissions, both the one put forward by the New South Wales Industrial Hemp Association and the personal one put forward by yourself and Raymond. I'm interested in the progress in New South Wales. You mentioned on page 3 of your submission the opening up of talks, essentially, and your work as an association with the new New South Wales government. What progress have you had to date and, with respect to the need to have FSANZ change the rules around hemp as a foodstuff for human consumption, what signals are you getting from the new government there with respect to that?

**Ms KUYUMGIAN-RANKIN**- I think Ray has input for this one, I will pass him on.

**Mr RANKIN** - I am sorry, I did not quite get the thrust of your question there. Regarding the food, I will say very briefly that we feel legislation is essential to open up the industry itself because it gives the farmers a guaranteed market for their crop. As you know, they cannot be expected to plant unless there is a guaranteed market for the crop. The food is a very obvious and simple market with huge potential nationally and internationally, simply because of its omega-3 profile and its ability to supply a highly digestible protein and all the essential aminos. Alongside of that, as a consequence of growing for food the stalk of the plant can be processed very simply into building material. We have an associate in the industry that has developed a decorticating machine to produce fibre. As Beatrice said, there is a dearth of spinning mills but we could easily export that. I think the point I am trying to make is that it offers a crop with huge value-adding potential, from the farming agricultural point of view modest water demands, and because it does not require much in the way of insecticides, pesticides and herbicides, it is a relatively low-cost, low-investment crop for the farmers to grow.

**Mr ROCKLIFF** - Ray, back on the decorticating machine, is that a person based in Victoria.

**Ms KUYUMGIAN-RANKIN**- Yes, Adrian Clarke. I think you are speaking with him as well.

**Mr ROCKLIFF** - Yes, thank you for that.

**Ms KUYUMGIAN-RANKIN**- Getting back to your original question, you were asking about collaboration. We have just had our national body meeting on 2 July where members from different IHAs came together in Mascot and there was definitely a vote for having a national body, the necessity of it, because of our country's largeness and diverse regions and also different harvest times, different fibres, whether it is grown for fibre, food or plastics, we have to all work together, and we can share the transportable machinery in different regions. The national body is very important.

As far as political help is concerned, the Queensland association has had a meeting with the new Liberal government there. It was the Liberals that actually made the appointment to see the hemp association. In New South Wales, I have just been asked to run for local council and although I like the independents because things like music and

sustainability really do not have politics - colour, religion - it applies to all of us, but the Greens are showing us the process of putting it forward, first of all at a state, then a national level. We did have a meeting with Lee who said she has no problem at all mentioning hemp in parliament but obviously there is a process to be put in place and they are happy to show us the way, but there is a council election in September and everyone is so busy and all of us are trying to run a business.

There is another Liberal politician, Alex Gibson, with research and development money, but again you almost need volunteers. We cannot have someone to chase up the R&D money while we are trying to run a business plus we are trying to inform people and run a non-profit organisation, so we really need government support. The whole industry needs government backing.

**Mr ROCKLIFF** - In terms of changing FSANZ's point of view and that submission of A1039, are you getting some warmer signals from the New South Wales government, at the very least, in supporting that change at that FSANZ level?

**Mr RANKIN** - No, we are not.

**Ms KUYUMGIAN-RANKIN** - Not really, no.

**Mr RANKIN** - It is not a matter of - FSANZ has always been supportive because they have done the research as far as the value of hemp seed as a human food. The reality is that worldwide it is highly regarded and they could access all this information, well verified from all over the world. Their position has always been supportive. It has been obstructed by government at a state level and a federal level. New South Wales has not been particularly supportive. We are all convinced it is simply because they are not in possession of the information because anybody who is correctly informed about this issue has to be a supporter. There is no rational reason not to support it. It offers Tasmania the chance of a sustainable carbohydrate-based industry with huge value-add opportunity in terms of building materials and food -

**Ms KUYUMGIAN-RANKIN** - And paper.

**Mr RANKIN** - And paper, just to name three industries.

**Ms KUYUMGIAN-RANKIN** - We feel that in submission that, for example, Queensland police have put in and the New South Wales Health, it is very antiquated arguments. They're still quoting lines from the 2006 submissions and it is very obvious that, with all the ability of research and of the manpower they have to get the right information, no-one has really done their research to put a logical argument against having it.

**Mr BOOTH** - Chair?

**CHAIR** - Yes, Mr Booth.

**Mr BOOTH** - I was wondering whether you have any indicative values on a kilogram of spun fibre?



**Ms KUYUMGIAN-RANKIN** - Right at the moment, for our research and development, I know there is some money available but we have always tried to fund our own research. At the moment I am looking at about \$40 per kilo. I have to buy that but if we were to do it ourselves, spin it from scratch in Australia, different. The machinery that those ladies bought is being set up in about two or three months' time so that is when the actual spinning in Australia will start. Otherwise, I have to buy fibre, that is hemp and Australian wool blended in Korea, brought into Australia so we can do experiments for the throw quilt that we have the market for. Everything seems to take so long because there is no infrastructure left. So, about \$40 a kilo, whereas if I bring the fibre from China, it costs me around \$8 or \$10 a kilo.

**Mr BOOTH** - Is that spun fibre from China?

**Ms KUYUMGIAN-RANKIN** - No, not spun. It is just raw sliver so it still has to be spun. If I bring it spun I have to pay around \$35 to \$40 per kilo.

**Mr BOOTH** - I am interested in what value the fibre represents. You can land it from China for \$8. How many kilos would you get out of an average crop per hectare? I am just trying to make a comparison - if you are getting \$8 per kilo - Jeremy might be more up to speed on it - that would be a pretty damned good price for wool, wouldn't it?

**Mr RANKIN** - Yes. A very reasonable average crop would be say 12 tonnes a hectare. Of that, in terms of weight, you would be getting about a quarter of it in fibre so you are talking say three tonnes of fibre out of a decorticating machine. That's obviously got to be spun as well but say 3 000 kilos. I think that would be a fairly modest average estimate now. I am not an expert in this field but I think that is probably fairly close. There have obviously been fibre crops where they are producing 18 to 20 tonnes per hectare and obviously with advanced agronomy and research into seed breeding that may well become a commonplace sized crop per hectare. It is too soon to say about that so that is why I am using this 12 tonne as an easily achievable average.

**Mr BOOTH** - Have you got any knowledge of the number of times, like what the rotation regime would be for hemp? Can you keep growing it in the same paddock or do you have to rotate them, do you have to spell your paddocks?

**Mr RANKIN** - It is a bit like this. It is an ideal rotational crop because of its short growing season. If you are growing for fibre, for example, you have a 90-day cycle between planting and harvest. All your winter grain crops can grow in rotation with that. You can keep growing. It has been done. Obviously you would need to top up with you nitrogen and potassium, but if you were growing lucerne let's say as well, you could do that. But you could not endlessly grow out of the same field. It does have nutrient requirements so unless you keep topping that up with food for the plant you are going to deplete the nutritional value of the soil over a period of time. You could probably without much loss of return plant three or four seasons in the same plot of dirt without any noticeable decrease in your return.

**Mr ROCKLIFF** - On the rotation aspect, Ray, and a question was put by Mr Booth to the previous witness, in terms of an industrial hemp crop grown and then the next year you might plant another crop and there might be some residual seeds that grow, et cetera, how difficult is it to have a selective herbicide to spray the volunteer hemp plant out of say,

and I will just use the Tasmanian example, a bean crop for example, I not sure what the New South Wales equivalent would be?

**Mr RANKIN** - In all honesty I could not answer that question with any confidence. I have personally had rather limited growing experience. I haven't known that volunteer plants have been a significant problem but obviously they could be attacked with an herbicide if it was an issue. What I could say about following crops is that mostly farmers find that they get a better return per hectare because the preceding hemp crop leaves the soil in such good condition, and it is quite routine with for example winter grain crops that they get a 10 to 15 per cent above average harvest following planting in soil that has previously earlier in the year grown hemp.

**Ms KUYUMGIAN-RANKIN** - That is the news we get from the different farmers around New South Wales who have grown it with a rotational crop following the hemp.

**Mr RANKIN** - So that particular issue, as I say for those reasons, I am sure someone has the information, but from all I know it has never seemed to have been much of a problem at all.

**Mr ROCKLIFF** - Thank you.

**CHAIR** - Thank you very much for your evidence today. Are there any final comments you might want to make to the committee.

**Mr RANKIN** - Perhaps I am just recapping the nature of our submission and just to say that at Hemp Gallery we really hope that the Tasmanian Government gets behind this industry because it does offer a lot of opportunity and some sustainable industrial resource for value adding. We hope to see them lead the way in developing a sustainable industry based around a sustainable crop.

**Ms KUYUMGIAN-RANKIN** - That is exactly right. I suppose the Greens have originally - and with problems you are having with the pulp mills it seems to us that it sorts out so many of our ecological problems. Not only that, we have the bonus of all the economical benefits as well.

It is unfortunate that the cotton, timber and oil industries, without getting into conspiracy theories, but all the negative propaganda of the past 80 years has left this terrible image of such a beneficial plant. I do not know whether you saw in the *Sydney Morning Herald* television there was a documentary about an hour and a half long on Sunday, just passed Sunday, and yes it can be the solution, not an alternative. Alternative to what? Everything else we have at the moment just depletes our earth. We are pillaging and plundering and with all due respect to our Chinese friends, I mean I work with Chinese, with so much of our lands going to foreign almost occupation. One day down the track when we have a disaster those lands will not be to feed Australians; they will all be leaving towards China and the other parts of the world.

We really need to think of our future security and we really believe that hemp is the solution if we all work together and work out the difficulties. It is a big issue but learning from Canada which has a \$520 million industry just in foods I am sure we can do, if not better, build our economy on something that is ethical.

Unfortunately it cannot be patented so I suppose big corporations like Monsanto are not so interested or help with the propaganda. It should not be for a select few. It should be for the benefit of all Australians. I am sorry for being quite passionate about it but this is how we feel and we have devoted seven days a week in informing people about the importance of self-sustainability and community-based, carbohydrate-based economy for the future.

**CHAIR** - Thank you very much for that, Beatrice. By way of simple reminder that the evidence you have provided today we are very grateful for and that is in *Hansard* so you have that protection. If you do wish to comment from what you have provided today then you certainly do not have that parliamentary protection of *Hansard*. Thank you very much. We very much appreciate the information you have provided.

**Ms KUYUMGIAN-RANKIN** - Thank you very much, gentlemen. All the best.

**DISCUSSION CONCLUDED.**

DISCUSSION BY PHONE WITH Ms KLARA MAROSSZEKY, MANAGER,  
AUSTRALIAN HEMP MASONRY COMPANY.

**CHAIR** (Mr Best) - Thank you very much, Klara, for your time. As chair, I have to advise you that any evidence you provide today will be protected by parliamentary privilege. If you wish to make comments outside the committee around what you have raised with us today, you do not have that protection. Nonetheless, if there is any information you wish for us to hear privately, not for public dissemination, if you would indicate to me as chair I am happy for us to go in camera and we can receive that information and it would be dealt with privately and not be publicised.

Thank you very much for your submission. I note you have given quite a lot of comment regarding hemp masonry and a project with the Aboriginal community. Would you like to make some general comment regarding your submission and then we will ask some questions?

**Ms MAROSSZEKY** - Thank you for the opportunity to comment. I want to frame my submission in the context of what is happening currently globally because I think that is very relevant. One of the reasons why it is very valuable that this discussion is happening about hemp is because we are at a time when we are aware there are food security issues. I am not talking about the distribution of food because there are issues there, but we are also talking about issues related to reduced water availability or what is perceived as being that.

In my other role I work with TAFE as a program manager for ecological sustainability initiatives, so I am fairly current in my understanding of the bigger issues we are facing environmentally. It is worth noting that we are at a time when there's a global need to manage carbon and to sequester carbon. We are also in a situation where we have a crisis in social housing, so there's a need for sustainable housing from renewable resources. There are also questions around health and indoor air quality in current housing. There is a real need to develop closed loop products because we have major issues associated with recycling and landfill management.

I say those things because I believe hemp has a huge role to play and it is internationally recognised, and has a recognised role as a feedstock for sustainable manufacture across a broad range of areas.

In terms of diversity of crops, it's also very relevant that we should be looking at everything in that context because there are concerns associated with large, broad-scale GM crop production. In a time when we have food insecurity, diversity would be a logical way to approach things or a best-management way of approaching things. Hemp is renowned as being a hardy and very resilient crop that needs reduced water in comparison to most other fibre and grain crops. It is also very notable because of its huge biomass, so in terms of carbon sequestration there is enormous value there.

To be more specific about my submission, it follows work I have been doing for a couple of years working with Aboriginal communities. I had a role coordinating Aboriginal programs for quite a long time within TAFE and have had discussions with elders in quite a few areas in Australia about their housing needs. My approach has been to try to

be as consultative as possible because I believe one of the major problems relating to the way that we work with Aboriginal communities is that there is not enough consultation at the beginning. That has very much been my approach and in quite a few areas in Australia. I have conversations with elders in the Territory and in Queensland, and also in New South Wales and, more recently, with Auntie Phyllis Pitchford in Tasmania, just to broadly discuss with her whether there was any interest in the involvement with Hemp Housing from the Aboriginal community or whether she felt that there would be.

One of the reasons I am really interested in this work is because there is enormous opportunity for employment, I believe, and from discussions with the New South Wales Housing - I originally, in New South Wales, approached the Minister for Aboriginal Affairs to instigate contact with communities. The feedback that my brother, who I have worked closely with, and I received, was that the New South Wales government was very much looking for self-help solutions for Aboriginal housing. I think what I am talking about really fits the criteria very well. I am talking about that because in terms of the skills set and training and handing on those skills, it is to build hemp masonry housing. It is built with formwork so they are formed walls. In terms of skill set, it is not a very complex skill set, so it is an easy skill set to hand over. I certainly feel that there is role in mainstream building but I also, I suppose, see that part of the way we could address housing in Aboriginal communities effectively would be to offer employment in doing just that within the Aboriginal communities.

The feedback I have had in general is very positive. I have been working more closely with Auntie Liz Johnson more recently, who is a burragubba elder from Queensland. She is also a teacher and we have discussed this in quite some detail. I am working with a small crew of Aboriginal people here in the Northern Rivers at the moment and with New South Wales Aboriginal Business Development. It is a model that we are talking with TAFE about, and it is a model that we will be rolling out.

I would very much appreciate the opportunity to have those kinds of discussions in Tasmania as well, just to be able to at least instigate that process.

**Mr ROCKLIFF** - Thanks, Klara. The discussions you have had at a Tasmanian level have been positive so far?

**Ms MAROSSZEKY** - Yes, very much so. When I came down I came down to run a few work shops down there and talk about the hemp industry and hemp building in particular. In those conversations I met twice with Auntie Phyllis Pitchford. I have spoken with her several times since and she is aware that I was making a submission because I was mentioning my discussion with her. She is very keen to link me in with the Master Builders Association down there to explain my brother's role in this work.

My brother was a professor at the New South Wales University and the Director of the Australian Centre for Construction Innovation. My work was with him in developing this product. He would also be interested in coming to Tasmania to talk to the Master Builders Association and see how we can work together with them to roll out some training, perhaps furthering the understanding of the product down there.

Going back to the terms of reference of the inquiry, I have just had a look at it again briefly before I knew you were going to call. I think what you are looking for is

identification of major impediments to commercialisation. I would like to say a few things about that, if that is okay.

**CHAIR** - Yes, sure.

**Ms MAROSSZEKY** - Something that is really important is that there has been a lot of very poor communication related to the hemp industry. Without going into the politics of why that has happened, now that we have acknowledged a state and we have allowed for hemp industries to exist and to commercialise, and we recognise that and we are starting to recognise that value of the industry both domestically and potentially in export. I think it is critical that there is a tripartite endorsement for hemp, and I am talking about endorsing its value in going into all sorts of renewable manufacture. I mentioned earlier that there is international recognition of integration of hemp into sustainable manufacture. I think that is something that really needs to be talked about, because I do not believe that the Australian public has got over the incorrect information in a way. What happened was that we effectively took hemp out from the Drug Misuse and Trafficking Act, but we did not then explain why it had been there and why it should not have been there.

**Mr ROCKLIFF** - So you are talking about a tripartisan approach in terms of local, state and federal government?

**Ms MAROSSZEKY** - Yes, informing the Australian population and investors about the potential for hemp in manufacture. It would really encourage something that is very difficult to do from within the industry, if you are working with your own product and you are working with farmers, which has been an enormous part of my work in the past few years. For others and people who are working just in retail, there is an enormous involvement with the farming community by people in the hemp industry. There is a real need for clear communication that this is an endorsed government direction. The reason why it has been endorsed as an industry is because it has these values and if people were to understand that this is the way we can transition into a low carbon economy, I think that would be a fantastic thing, because in Australia there is an enormous amount of fear about transitioning into this low carbon economy. They do not actually understand that these major biomass plants such as industrial hemp are the plants that will allow us to do that. Hemp in particular have this really active history in Europe particularly and in Canada and in the UK. I am talking about automobile manufacture and plastics manufacture, in composite board, in the materials that I am working with, in textiles, in replacing fibreglass.

I mentioned landfill earlier. We need to develop a product that does break down more readily, that is not so complex in recycling. I think these things need to be made clear to the Australian public because people do not really understand that this is a pathway to transition to a low-carbon economy. So I think that is a communication issue, and it is something that in New South Wales we are raising with the Department of Primary Industries, and I have raised it with regional development, that there is a real need for education. It is above and beyond what other industries normally need, because it was incorrectly labelled under the Drug Misuse and Trafficking Act, and even though we have changed the legislation we have not actually kept the public informed. I think that has quite a significant impact on industry uptake and on investment.

**Mr ROCKLIFF** - Klara, I've noted your detailed submission, and thanks very much for that, and the various performance advantages you have detailed in terms of health, durability, insulation, acoustic insulation, carbon advantages and recycling. Where are we in terms of cost comparisons, notwithstanding the other benefits? Are we in the ballpark there in terms of construction costs being slightly above, the same, or lower?

**Ms MAROSSZEKY** - We are. I was just looking at that today because I have just been out to Ashford to look at a decorticator there. I have been working very much with regional communities and looking at ways in which regional communities can get the machinery together for processing for hemp building materials, so that was outstanding for me. We had sorted an enormous amount of the processing, but a decorticator, if that can go into the system, would give additional markets for the bast fibre.

**Mr ROCKLIFF** - How is the decorticator looking from your point of view?

**Ms MAROSSZEKY** - I am looking forward to feedback tonight; I haven't had any feedback as yet. I saw it operating yesterday morning and I was very pleased and impressed with it. They had some problems with the machine yesterday afternoon but I am fairly confident that was sorted this morning and I am looking forward to hearing a bit more about that. We have a regional processing model that has been developed at Ashford and that would be transferable to Tasmania. What I am looking at there is infrastructure that is not very expensive, so machinery around \$50 000 as opposed to millions of dollars of investment in infrastructure, which you probably need for other industries.

As to the actual building material and how competitive it can be, one thing that is influencing the pricing is how far I have to transport hemp. I recently transported hemp from the Hunter Valley up to the northern rivers and from Ashford down to Shoalhaven. They are quite large distances, between 12 and 18 hours of transport for a very light material. It reinforces for me something I've been saying consistently, that with the hemp industry you'd have to have a regional base and you have to be providing material into a regional area that is not hugely distant.

**CHAIR** - Klara, can I ask about the hemp masonry technology? In your submission you say:

Once cropped the dried, chopped stalk is combined with a lime-based binder and mortar and poured into shutter support off a timber frame as the hemp masonry mix strengthens it creates a masonry wall with outstanding thermal and acoustic properties.

There is another reference on page 44 where I think you demonstrate the shutters. The recipe is basically that the stalk of the hemp replaces the gravel mix or the masonry component? You have some sort of lime or cement binder with water, is that how it works?

**Ms MAROSSZEKY** - That may be a bit simplistic but that is essentially correct. The mass of the material is hemp fibre, probably to a greater degree than you would have as an aggregate. The mix we worked on in Uni of New South Wales was to maximise the amount of fibre in the walls.

**CHAIR** - So you don't really have an aggregate?

**Ms MAROSSZEKY** - That is the aggregate.

**CHAIR** - It's like a mud brick but not really?

**Ms MAROSSZEKY** - It is like a mud brick in a way but it is opposite in a lot of other ways. It's an opposite in the sense of weight, handling and building - it is a light product to work with. With mud brick you are packing it down hard to get a very tight mix but with hemp you're working for a light mix because you're trying to keep it fluffy so there's air in it, so it's about insulation in a completely different way. Both mud brick and hemp are breathable walls, so that's good for indoor air quality. It is a similar method to mud brick but it is much faster and lighter to handle. In terms of impact on builders and that sort of thing, it is a very nice material to work with. When we're talking about the aggregate, it's not as simple as that because it's a reaction that occurs between the hemp and the binder. In layman's terms it is described as petrification, so the hemp petrifies in the wall, but it is a carbonation process. When you ram dirt you're just using the air to dry it but generally with masonry material there's quite a big energy component in the kiln baking. Here it is a carbonation process, so once you remove the shutters it starts to draw carbon dioxide from the atmosphere and that's how the material cures.

**CHAIR** - Does the chopped stalk have any binding quality of its own?

**Ms MAROSSZEKY** - No, not if it's processed in the way it is processed for building material. Obviously the bast fibre, which is the outside fibre - I work with the inside fibre - lends itself to all sorts of insulation materials. It has an export textile market but one of the products I've looked at quite closely, because I believe there's a place for it in Australia, is a composite board and an insulation matting combination plant, for which I have some specifications - someone sent them to me from Hong Kong. It's a German machine that produces a fantastic insulation matting that I think we'd find was far less toxic than a lot of the things on the market at the moment. That makes a fantastic weed matting as well. The hurd doesn't have anything that makes it adhere to itself.

**CHAIR** - Klara, thank you very much for that. This committee is trying to seek a way forward for the hemp industry here in Tasmania, so hopefully we'll get the report out and be able to devise some ways forward for the industry. We will be reporting back to the House of Assembly once we complete further hearings in Launceston.

**DISCUSSION CONCLUDED.**



## DISCUSSION BY PHONE WITH Mr STUART CARTER.

**CHAIR** - Good afternoon, Mr Carter. Any evidence you provide today is protected by parliamentary privilege, being *Hansard*. If you wish to discuss anything that you think might be commercial-in-confidence, or anything private that may be affecting another party, if you indicate that to me as Chair I will ensure that information is not made public and would be taken in camera. Of course whilst you have parliamentary privilege today if you wish to repeat any of the evidence you provide today outside of this committee, you will not have that parliamentary privilege that is being provided to you today. We very much appreciate the submission you have made.

**Mr CARTER** - Thank you for the opportunity and I appreciate your time. I thought I would start with an opening statement.

Industrial hemp, the low-THC variety that is the subject of this inquiry, is a misunderstood plant by a misinformed generation that has been kept in the dark as to the potential value and contribution it can make in four ways: human wellbeing; Australian soils; the Australian economy; and to future generations.

The case for hemp as a legal food has already been established. There is really no need for any further evidence because that is already available. That has been provided by FSANZ on two occasions now when they reached the conclusion there is no reason to keep hemp as a food on the banned list. I quote:

There are no public health and safety concerns associated with the use of food products containing derivatives of industrial hemp, provided there is compliance with the proposed maximum levels for THC in hemp seed, oil derived from hemp seed, and other products derived from industrial hemp.

I do not want to labour the point or tell you what you already know because I know you would have looked at those documents, but I wonder how many times we have to say the same thing.

The case for hemp to be treated fairly or on its merits is my next point. Poppy seeds can be eaten whole or milled. It is the green poppy flower pod that is used to make the drug opium. The seeds for eating, and the latex for drug making, come from the same plant. There is no confusion, misapprehension or perception that Australians will be confused or misguided in their use of the poppy plant and the seed displayed on the supermarket shelf purchased for baking or decoration purposes.

Hemp seeds can be eaten whole or milled - just not legally in Australia. Treating all *cannabis sativa* plants as one would be like treating all termites as one. Only three or four of the scores of termite species do any economic damage to Australian buildings; the remainder are an essential part of recycling organic material for reuse. In fact, the CSIRO has recently acknowledged that without termites in their billions we would not be farming and grazing to anything like the extent we are today in this country. Termites, in spite of their bad press, have an economic benefit beyond the perceived cost. That is what we need to sort out with termites so that we greatly reduce the damage we do by using the methods we do to get rid of them, and so it is with cannabis.

Only a few of the varieties have any THC for drug-making purposes; the majority are low- or no-THC varieties. *Cannabis sativa* or industrial hemp bred for fibre and food production is not one and the same plant as that grown for drug production. That seems to be the sticking point, I would submit. To place it in the same box not only demonstrates our ignorance, but it places our farmers at an economic disadvantage; it robs our soils of a healthy rotation crop; and it withholds from our diet the best balanced edible oils available. It also reduces our diversity at all levels of our society, agriculture, commerce and household. As we know, and Tasmanians would know because of all the forest issues there, it is strengthening diversity and we are left clutching at straws if we don't bring hemp seed into the mainstream.

My next point is the case for consistency in how hemp as a food can be consumed.

**CHAIR** - Stuart, you mentioned a crop that could be used in rotation with agricultural farming; what is the harvest period or the growth cycle?

**Mr CARTER** - With hemp?

**CHAIR** - Yes.

**Mr CARTER** - It is 140-day crop. Last Friday I attended a hemp growers meeting in the Hunter Valley, at Jerrys Plains, with the biggest company involved in hemp in Australia, Ecofibre Industries. They are growing about 150 hectares of hemp in the Hunter this last season, aiming to do 200 hectares this next season. I wouldn't say the fibre industry was going ahead leaps and bounds but, pun not intended, it is bedding it down, so to speak. The reason no pun is intended is because one of the products is bedding for animals and so on. They are really looking at having seed as part of the productive process and of course that is not possible. But they were talking about when and if that time comes, which varieties and which soils and what the agronomy will be - they had a couple of agronomists there. It was a very good day and the farmers were very keen to keep going.

**CHAIR** - Are you growing it?

**Mr CARTER** - No, I'm not a grower or a manufacturer. I don't have any monetary investment interests in this plant; I suppose I have a social justice pursuit. I have never taken any drugs, pot or anything; I'm not even from that side of the fence. I just believe that this is the right thing to do. It sounds a bit airy-fairy and soft but other cultures have embraced this plant for centuries and are doing so well financially from it. The Chinese army is marching in hemp textiles. I heard a story that the Australian military are going to have Australian soldiers marching in hemp socks. I haven't confirmed that that is true or not but it would be ironic if that was the case.

**CHAIR** - We received evidence today that there is a manufacturer in George Town that uses hemp for military armoury, so it is possible. My understanding is that during the Second World War hemp was used for military purposes - clothing or other reasons.

**Mr CARTER** - That's right. Captain Cook came to Australia with sails made of hemp, and the first Levi jeans were made of hemp. The fibre is out there. It is with the food ones where the big contradictions are.

If we look at this case for consistency in how hemp as a food can be consumed, an Australian living in Australia is not permitted to consume hemp via the mouth, or to be technical, ingested. It is legal, however, to consume hemp via the skin - that is, to be absorbed. The skin, being the largest organ of the human body, it seems odd that Australians are permitted legally to purchase and apply hemp products to their bodies externally - that is, taken up via the cells of the body to enter the blood stream and act as a nourishment for the whole body - while the law forbids the uptake of hemp's nutritional qualities via oral means. At this point there seems to be a huge disconnect between what is perceived as taking a dangerous substance and the reality of how the human biological system functions. It is as if the skin was an external barrier like the hull of a ship, shedding the water as to allow the internal mechanisms to remain dry, intact and operational. On the contrary, it is stating the obvious that the skin is an integral and essential part of the body. Without its capacity to act as a tempering medium between internal operations and external forces, we would wither and die. The skin is not designed to act as a barrier to remain dry and parched. In its own way, the skin inhales and exhales. When hemp as a skin food, and I use the word 'food' advisedly and deliberately, is applied, it is absorbed into the body as would be intended. There is no suggestion at this point that this is against the law and that it will do any harm; in fact, quite the opposite. It is legal, it is sold in the Body Shop and many other places and its purpose is to improve and sustain, cleanse and nourish, replenish and rejuvenate. I believe that to be a very important point to make in this whole discussion in that we can take in hemp via the skin, or hemp's nutrient or values, but we can't eat it - via a elementary system.

My last point in my opening statement is the case for Australians to be able to eat hemp as food at home. An Australian travelling or living abroad is permitted to consume hemp as a food and yet that same Australian, on returning home, is treated as a criminal if he or she were to turn a legally grown hemp seed into a food product for human consumption. As a dog biscuit, yes, to feed to his pets, but as an Anzac biscuit to eat for him or herself, no. What is so peculiar and so precious about the Australian situation that makes us so uniquely different from the UK, for example, that we cannot differentiate between what we might perceive as high THC in the drug and low THC food stuff?

We look to our regulatory and enforcement agencies and to our elected representatives to ensure that we can access what is for the common good. That people living in every other country can distinguish between what is and what is not a protein rich hemp food or healthy hemp seed oil, while we are told Australians cannot, speaks volumes about the confidence, or lack thereof, that our agencies and elected members of parliament have in the Australian public. The case for correcting this stark contradiction is contained in far more documents than the against and yet the no case has prevailed until now. In the hypothetical scenario of this issue ever ending up in a federal court with prosecutors and defendants arguing their respective cases, there would be so many volumes of empirical evidence for the legalisation of low THC hemp as a food, and so much anecdotal and so much unsubstantiated and mythical evidence against the legislation, that I believe the court, which relies heavily on precedence when determining its judgments, would from what FSANZ alone has established find that low THC hemp as a food should be made available to Australians. They would probably note that if they could make the ruling retrospective, they would. In fact, it is conceivable that they would recommend that the

parties settle their differences without a hearing, noting that it would be a waste of the court's time and resources to take the matter before the full bench.

**Mr BOOTH** - You made the point that you do not have an interest in it and have more of an intellectual interest in it. Do you have any practical experience in growing the crops or the affects that it might have on the land et cetera?

**Mr CARTER** - No, I have no direct experience as a grower. As you state, I am not in that situation. I could direct you to other people who are and I could provide you with information that came from the meeting on Friday that states that, as a rotation, it is an excellent plant. It has a good tap root. It is a good feeder of nitrogen so it acts as a good rotation between lucerne, which is a nitrogenous plant, and then hemp, and then if you put on, say, winter oats those two seasonal crops would benefit from the lucerne originally, and then you can go back to lucerne again, or to some other legume crop to get the nitrogen back in. Or, of course, if you are looking at lesser nitrogenous crops there might be the requirement for some nitrate fertilisers to be put on. Some farmers were doing that because they were not in a rotation with a legume crop. However, they are all saying that when the plant drops its leaf - of course, the leaf is not of great value at the moment in terms of fibre because they are looking for the fibre in the hurd for those other sort of purposes - the plant is very good. It is quite dense and it grows to such a good height and has a fairly dense canopy it is a great weed suppressant, and so a lot of the farmers were saying they didn't require any cultivation for the next crop. They just sowed the next crop straight in because, apart from being a weed suppressant, it leaves the soil friable so they do not have to put another cultivation thing in, which reduces fossil fuels and compaction. It is just a win, win, win, this one.

**CHAIR** - Thank you very much, Mr Carter. It is nice that obviously you are a community-minded person and take an interest in these matters, of no benefit really to yourself other than your community interest.

**Mr CARTER** - Sometimes I - and I am sort of echoing other people's sentiments - wonder whether you are living in the same country. We are all Australians. We happen to live in different states because our forefathers drew lines on a map or whatever, and we live in different jurisdictions with different rules and regulations. However my point that I was making earlier is that I could go overseas and I could eat hemp and I would not be arrested. I come back to Australia and I eat hemp and I am a criminal, so to speak. It is great, I think, that the Tasmanian Parliament is open to this idea and seems to be making a move in a tripartite way to embrace what to many of us is an obvious sort of a thing in terms of legalising or making available hemp in the seed form.

Can you inform me as to what it is that means that you see it one way but if New South Wales sees it another way? We just can't do it in this country. Isn't this a national thing?

**CHAIR** - We are probably a different breed of termite.

*Laughter.*

**CHAIR** - But the thing about it is that -

**Mr BOOTH** - There are three different breeds of termite in the Tasmanian Parliament but they are getting on quite well in this one.

**Mr CARTER** - Right. So on the committee you have someone from the Greens, the Nationals and the Liberal Party?

**Mr BOOTH** - No, we don't have National termites down here. We have Liberal, Labor and Green.

*Laughter.*

**Mr CARTER** - Right, okay.

**CHAIR** - I think the debate in parliament which would be available if you would like to access the parliamentary web site in the lower House, the House of Assembly, pretty much you could read that and it would explain it. There is some mutual interest as to looking at what the benefits might be, and how we could forward an industry in hemp in Tasmania. So there is a bit of a collective position in the Tasmanian Parliament as to if it real or is it not. The purpose of this inquiry is to find out and then to hopefully make some qualified recommendations to parliament as to what the benefits might be. That is where we are at at this point, Mr Carter.

**Mr CARTER** - Okay. You are all members of political parties and those groups have national conferences. Are each of your state branches taking to the national conferences of each of those parties recommendations that they should adopt hemp as a food, and depoliticise it?

**CHAIR** - I can't speak for each party. All I can say is that as a state parliament there is a consensus that this committee be formed to inquire into the benefits and how we put forward a hemp industry in Tasmania. That is all I can comment about. I don't know what the situation is within the Labor Party -

**Mr CARTER** - So when you say a hemp industry in Tasmania, are you including seed as much as fibre?

**CHAIR** - Yes, but obviously there are federal issues regarding food. We have been advised that optimistically there could be some development there, or decision making, around December this year. Regardless, we are pressing ahead with what opportunities there may be with fibre and oil and what could be used in a non-food sense until that matter is resolved.

**Mr CARTER** - You just separated oil. Is oil seen differently?

**CHAIR** - No, I just mentioned that; it is not seen any differently.

**Mr BOOTH** - It may be possible that the oil could end up being a biodiesel use, or something like that, rather than food consumption. There are so many uses for this stuff. The committee is determined to look into all of it and remove whatever legislative impediments are in the way, and that should include food. But as the chair pointed out, there are national issues. We have to get changes made with regards to FSANZ's

regulations and until we report the committee can't even say what our final opinion will be.

**Mr CARTER** - When I was doing my research for FSANZ and for you, I looked up the web sites and oil seems to be readily available in Australia. I assume people are buying it for putting on their coleslaw, or whatever.

**Mr BOOTH** - Who knows what other illegal uses it is being used for.

**Mr CARTER** - Do you know whether oil is being sold in Tasmania?

**Mr BOOTH** - You can buy it from stores for both massage oil and for cooking oil, labelled -

**Mr CARTER** - So cooking oil is not considered a food?

**Mr BOOTH** - It probably is but people exceed the speed limit sometimes and infringe on parking spots. I suppose there is plenty of this stuff sold. Although you are not allowed to use it for food, people probably do.

**CHAIR** - Mr Carter, I am mindful of the time - I don't want to cut you off - but we do have another witness.

**Mr CARTER** - I appreciate that.

**CHAIR** - It was resolved in the House of Assembly that the state's position to be advocated nationally through the Food Standards Australia and New Zealand mechanism is that the sale of hemp as a food should be allowed in the upcoming year. The minister commits that following a national resolution being achieved, at the earliest opportunity to amend the Poisons Act of 1971. That is the position of the House of Assembly - there is a little more detail there but if that helps you. We thank you very much.

**Mr CARTER** - Thank you. I hope I have been of some use and haven't unduly taken up your time.

**CHAIR** - No, thank you very much.

**Mr CARTER** - I look forward to the results.

**CHAIR** - Hopefully it will be a good one.

**THE WITNESS WITHDREW.**