

**1. The Hemp Federation Ireland conference run in conjunction with the National Organic Training Skillnet on March 12th 2020 <https://www.youtube.com/watch?v=9xUfkWTrlGg>**

**1.1. Chris Allen Executive Director speaks of who controls the cannabis conversation in Ireland. Can be grown for fibre seed or oil or dual purpose crop Prohibition**

02:36 for both industrial products and for  
02:39 horticultural purposes  
02:40 they specifically state that okay  
02:44 so they shouldn't be included in the  
02:47 misuse of drugs  
02:55 prohibition also brought with it the  
02:57 exclusion of hemp  
02:59 from human diets  
03:54 slow uh compared to the rest of Europe  
03:58 okay there's been absolutely no research  
04:00 on hemp in Ireland for more than 20  
04:02 years  
04:16 upper market value of 115 billion  
04:19 euros by 2028 for this industry  
04:53 in 1964 Israeli researcher called  
04:57 Rafael Michelan he was studying the  
06:32 is that the plant-based cannabinoids  
06:36 can you feed and upregulate  
06:40 the endocannabinoid system inside of the  
06:42 human body  
06:43 okay and that's why people feel  
06:46 better when they take full spectrum CBD  
06:50 it's not that they're being cured of  
06:51 anything in particular  
06:52 it's that the function of the  
06:55 phytocannabinoid of the endocannabinoid  
06:57 system is to upregulate your homeostasis  
08:32 corporate farmer food drinks tobacco etc  
08:34 and they're dictating the way in which  
08:37 the market gets constructed  
08:19 experiencing  
08:20 exponential growth okay so  
08:42 okay so they're (corporations) are determining the way in  
08:44 which this industry gets developed into  
08:46 the future  
09:07 what did they call that the proposition  
09:10 64.  
09:11 so this was to kind of get their  
09:13 cannabis industry  
09:15 going okay so it was introduced in 2016

09:18 in conjunction with the legislative  
9:20 legalisation of cannabis in California  
09:23 would be the gold standard in  
09:25 environmental policy  
09:26 okay and it would provide encouragement  
09:29 for  
09:30 small-scale farmers practising  
09:32 ecologically sound and sustainable  
09:34 farming methods  
09:36 with funding for conservation habitat  
09:38 protection enforcement  
09:40 uh of environmental law the whole thing  
09:44 you know American dream environmental  
09:47 protections  
09:48 in practice what actually happened was  
09:50 that before the legislation ever went  
09:52 into effect  
09:53 the important environmental provisions  
09:55 were all overridden  
09:57 by the state okay and this effectively  
10:00 disabled the environmental safeguards  
10:02 and it encouraged corporate growth okay  
10:06 is uh from Dr Tony Saval who is  
10:10 a scholar in  
10:13 Humboldt state university  
10:18 cannabis lobby spent more than a million  
10:20 dollars lobbying holiday  
10:22 policymakers to push for legislation  
10:25 limiting the profitability of  
10:26 smes okay and how they they did that  
10:31 is that they introduced really really  
10:34 really expensive  
10:35 and difficult to fulfill licensing  
10:38 procedures  
10:46 okay in 1997 the European union  
10:49 introduced what they call a novel food  
10:51 catalog  
10:52 okay and anything that wasn't a  
10:55 traditionally eaten food  
10:57 in the European union prior to may  
11:00 of 1997 was going to be considered a  
11:03 novel food  
11:06 special regulation  
11:08 in order to get it okay or to be able to  
11:10 sell it  
11:52 but it's novel today okay  
11:55 and you need special authorization to  
11:58 get it  
12:29 that the FSAI recommended and  
12:33 it's around three million  
12:39 means  
12:40 is that nobody except a corporation

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055 12:43 could possibly afford that money nobody  
 056 13:34 uh actually they're all too old we want  
 057 13:37 you to give  
 058 13:38 us uh examples from during the time when  
 059 13:41 the plant was banned  
 060 13:43 in the 20th century okay that's  
 061 13:46 basically what they say  
 062 13:48 it's outrageous okay so  
 063 14:01 2016 the industry in Ireland  
 064 14:05 and you have to remember that we do have  
 065 14:07 a very old industry here  
 066 14:08 okay but the CBD wave that kind of  
 067 14:12 you know real interest in that and it's  
 068 14:14 really good money and uh  
 069 14:16 really good food, people getting turned  
 070 14:19 on to hell that was really driving  
 071 14:20 forward the industry okay  
 072 14:22 uh 2016 the FSAI had  
 073 14:26 two people asked them about CBD food  
 074 14:30 supplements  
 075 14:31 okay and I know both of them  
 076 14:36 but then it  
 077 14:39 trickles along nicely until around  
 078 14:42 2018, okay and then at that point  
 079 14:47 um we start seeing shops  
 080 14:50 being raided by police or products being  
 081 14:53 taken off  
 082 14:54 uh um  
 083 14:58 suppliers and and shops and etc etc etc  
 084 15:00 so a very  
 085 15:02 a criminalisation of of the industry  
 086 15:07 then you have um  
 087 15:11 following on from that you had you know  
 088 15:13 some of the raids were like you can  
 089 15:15 carry out like  
 090 15:16 drug raids those you know people's front  
 091 15:18 doors being  
 092 15:20 battered down by guards and I don't know  
 093 15:23 what else  
 094 15:24 so all this time okay  
 095 15:27 it's actually perfectly fine to grow  
 096 15:30 hemp in Ireland  
 097 15:32 the FSAI say to say to us that  
 098 15:35 you can grow hemp with a 0.2  
 099 15:39 THC and it's perfectly fine to  
 100 15:42 have that sold in Ireland as a product  
 101 15:45 including  
 102 15:46 for food okay that was that was the  
 103 15:48 instruction  
 104 15:50 now three weeks ago  
 105 15:53 we woke up one when uh Thursday morning  
 106 15:58 and that was all gone gone  
 107 16:01 the information was gone from the FSAI  
 108 16:04 website  
 109

16:05 and our businesses were completely and  
 16:08 utterly devalued  
 16:10 um and how that happened was this the  
 16:12 FSAI said to us  
 16:14 here's the regulation for your industry  
 16:17 that we want you to  
 16:18 to keep up with and we said fine  
 16:22 and you know the people in this  
 16:24 organisation this organisation itself  
 16:27 have been pushing pushing pushing to try  
 16:30 and get the state to work with us  
 16:31 to put in place you know a proper stable  
 16:34 regulatory framework to protect  
 16:36 our supply chains and protect our  
 16:37 markets okay they haven't  
 16:40 so far done that but so what they did  
 17:14 they introduced a completely new  
 17:16 reference value that is one microgram  
 17:18 per kilogram of body weight and now Kate  
 17:28 uh but so the FSAI did this without  
 17:32 once consulting anybody in the industry  
 17:42 was asking them about the methodologies  
 17:44 that we're going to be applying  
 17:45 to the testing of our products what kind  
 17:47 of equipment they would be using in  
 17:49 those tests  
 17:50 and they wrote back to me and they gave  
 17:52 me all of the information i needed but  
 17:54 they never  
 17:55 ever ever mentioned anything about  
 17:58 a new reference value that they were  
 18:00 going to be applying to  
 18:01 our products so what actually happened  
 18:04 was that our products are all  
 18:06 compliant with the only advice that this  
 18:09 industry has ever been given by FSAI  
 18:12 however FSAI uh did a high-level media  
 18:15 campaign campaign that withdrew our  
 18:17 products  
 18:18 from the market really high quality  
 18:19 products did a high-level media campaign  
 18:22 and never once mentioned  
 18:23 to people that actually our products  
 18:25 were all compliant  
 18:27 they never told people that they changed  
 18:30 the goal  
 18:31 inside of their report and so  
 18:34 it just had such a negative detrimental  
 18:38 impact  
 19:18 in Ireland i ask for a fully integrated  
 19:22 development plan for this industry so  
 19:24 that we can capture not just the  
 19:25 economic benefits and there are loads of  
 19:27 them

110 19:27 but that we assess how we can also get  
111 19:29 the other ones  
112 19:30 the human food nutrition potentials the  
113 19:33 environmental potentials  
114 19:35 the you know agricultural system  
115 19:38 development potentials and look at  
116 19:42 providing a new system a new economic  
117 19:44 system  
118 19:45 to you know account for these benefits  
119 19:48 not just for profits  
120 19:50 okay so so is to encourage you know  
121 19:53 rural Ireland and farming communities  
122 19:56 and  
123 19:56 doing it because it all has to be  
124 19:58 embedded at local level  
125  
126

127 **1.2. Jace Callaway CEO Fiona Finland speaks at the**  
128 **Hemp Federation Ireland Conference [https://](https://www.youtube.com/watch?v=HK75Ui7DKnM)**  
129 **[www.youtube.com/watch?v=HK75Ui7DKnM](https://www.youtube.com/watch?v=HK75Ui7DKnM)**  
130

131 00:38 you have to understand the french have a  
132 00:40 sewn up fibre market  
133 00:42 where they make speciality paper you're  
134 00:44 not going to compete with that  
135 00:50 if you had the products if you had the 00:52 market  
136 00:53 the Chinese would serve it cheaper 00:56 faster better  
137 than you people eat every 01:00 day 01:07 I recommend  
138 that you go into food 01:53 there's over 2 800 scientific  
139 articles  
140 01:56 on cannabidiol  
141 01:57 alone not one of them shows harm  
142 02:00 the authorities are scrambling  
143 02:02 desperately looking for something  
144 02:04 harmful to say about CBD and they come  
145 02:06 up empty-handed  
146 06:23 there's vitamin minerals in the seed  
147 08:54 high amount of omega-6 high amount of  
148 08:57 omega-3  
149 09:22 these are the only  
150 09:23 two clinical studies on hempstead  
151 09:45 we had healthy people  
152 09:49 we didn't expect them to get any  
153 09:51 healthier  
154 09:52 we compared him to the oil black seed  
155 10:54 not only safe but really healthy we  
156 10:57 found that the fatty  
157 11:06 and we were surprised to find the HDL/LDL  
158 11:09 ratio improved  
159 11:35 but we did the second clinic with hemp  
160 11:38 seed oil  
161 11:39 and this was a patient  
162 11:46 this is eczema and we found out  
163 1:50 that eating him oil clears up  
164

11:54 excellent in about two weeks 10 days to  
11:57 14 days  
11:58 becomes very clear and uh  
14:19 we had  
14:20 in decreased  
14:23 reporting of skin dryness decreases  
14:28 in the skin itchiness and decreased use  
14:31 of medication after the hemp seed oil  
14:40 it just changes in a very small  
14:44 population  
14:45 that's that's highly unusual  
15:34 typically the western diet is heavy and  
15:37 omega-6  
15:38 losses so you see off to the left  
15:41 there's this pg-1  
15:42 pg2 these are inflammatory  
15:45 prostaglandins  
16:54 the nutrition of hems first off  
16:58 that excellent source  
17:01 vegetable nutrition there's nothing else  
17:03 like it in the vegetable world  
17:06 the pro both completely easily digested  
17:14 and also hemp seed oil is a functional  
17:18 food  
18:08 and if you want to lower your  
18:09 cholesterol the LDL  
18:12 attempts  
18:16 and then just spread it on your bread  
18:30 especially bird seed  
18:34 animal food versus cow  
18:37 chicken will make omega-3 eggs  
18:41 and whole hemp seed oil sediment  
18:44 or seed cake this is a very important  
18:48 market  
18:56 that nuts iron name metallic Allister's  
19:00 cough  
19:00 mixture could be really handy you look  
19:03 there the ingredients cannabis  
19:05 indica iphc i don't know what's fixing  
19:09 the cough is it  
19:10 chloroform or the alcohol  
19:21 but um it's important to know that this  
19:24 was  
19:24 a medicine and the medicine worked quite  
19:28 well  
19:57 perfectly legal for human consumption  
19:59 but what do the authorities say about  
20:01 feeding to animals  
20:11 European commission 2017  
20:15 on page 77 of this commission  
20:18 regulation you'll see listings for hemp  
20:22 seed  
20:27 right there with poppy seeds and poppy  
20:29 meal of course

165 20:30 these are perfectly acceptable things  
166 20:32 for animal feed  
167 20:34 it's in the law we don't have to ask for  
168 20:36 permission  
169 21:19 the extra lime oil for paints and  
170 21:22 varnishes  
171 21:23 other speciality coatings you can make  
172 21:26 inks out of it because it's a drying oil  
173 21:29 and because it's a drying oil that means  
174 21:31 it oxidizes rather quickly that's why  
175 21:34 it's not so good for soaps or cosmetics  
176 21:37 because they begin to smell like paint  
177 21:39 rather quickly and hemp seed oil is not  
178 21:42 appropriate as an iod  
179 21:44 so this is oil is too valuable to burn  
180 21:47 energy just don't even think about it  
181 21:50 you shouldn't be burning agricultural  
182 21:52 products  
183 21:53 especially a healthy food  
184 21:57 for animals with humanity

187 **1.3. Kate Mullaney speaks at the Hemp Federation**  
188 **Ireland Conference [https://www.youtube.com/watch?v=\\_Cgyxpbz-bM](https://www.youtube.com/watch?v=_Cgyxpbz-bM)**

190 00:39 this man he's horace plunkett  
191 00:42 he is um the founder his  
192 00:45 pr um his uh what he call it his um  
193 00:50 legacy to the uh to Ireland to the Irish  
194 00:52 farming industry is  
195 00:54 um the cooperative movement and  
196 01:22 dairy industry setting up if you know  
197 01:24 what i mean the dairy cooperative  
198 01:25 movement  
199 01:26 and the hemp industry was wiped out okay  
200 01:29 if you if you imagine the amount of  
201 01:32 investment in that hundred plus years  
202 01:34 that has gone into the dairy industry  
203 01:36 that was limited  
204 01:40 by for the hemp industry by um the  
205 01:43 prohibition basically of hemp  
206 01:52 actors that didn't want to see hemp  
207 01:55 progress um so  
208 02:23 from the last okay maybe  
209 02:27 10 or 10 15 20 years here's been very  
210 02:30 little  
211 02:30 investment even in that time so it'  
212 02:32 been the prohibition has been lifted  
213 02:34 to some degree um the amount of  
214 02:37 investment into the industry is  
215 02:39 is relatively small compared to let's  
216 02:42 say  
217 02:42 the last hundred years in the dairy  
218  
219

02:45 industry  
02:46 did that make sense so um there is a  
02:50 huge potential I  
02:52 understand sean is being a little bit  
02:54 sort of holding back a little bit on the  
02:55 uh the potential  
02:57 and that's understandable um but  
03:00 nonetheless there is a huge  
03:02 worldwide potential for hemp um  
03:05 for hemp in it's all in all its shapes  
03:08 and forms  
03:09 the hemp federation's focus though is  
03:12 industrial hemp  
03:13 so there is so this confusion i suppose  
03:16 um is where there's a crossover between  
03:19 hemp and cannabis  
03:20 okay we are very adamant in the hemp  
03:23 federation and  
03:23 the whole in the industry  
03:26 the people we're representing the hemp  
03:28 federation are hemp growers okay it's  
03:31 there isn't, there's a different lobby  
03:33 for the cannabis industry  
03:35 and a different um emerging industry  
03:39 and what we need to do is protect the  
03:42 hemp industry because it doesn't have  
03:44 the same voice it doesn't have the same  
03:47 bump behind it right now it's a smaller  
03:50 industry whereas the cannabis industry  
03:52 has massive pharmaceutical  
03:54 backing behind it  
03:58 so the industrial hemp um is the  
04:01 feedstock for  
04:02 numerous different industrial  
04:06 processes right the food the feed  
04:09 the fibre the fuel and the pharma I  
04:11 don't want to completely eliminate them  
04:13 from the talk  
04:14 um but they they they're all so hemp  
04:17 becomes the food stock for all of those  
04:19 industries um  
04:21 you know which give the opportunity for  
04:23 multiple possibilities right  
04:39 food feed fibre fuel and pharma has  
04:42 multiple industries  
04:50 um biological equivalent of crude oil  
04:54 so anywhere when you are where you  
04:56 imagine um 04:58 crude oil has been used or oil has  
been  
05:00 used you know the petrochemical industry  
05:19 um the problems for farmers are also the  
05:23 solutions  
05:42 of farming the cost to a small and  
05:45 medium

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220 05:49 than the industrial farming the you know  
221 05:52 the corporate farm  
222 05:53 corporate farm model um so  
223 05:58 um what am i trying to say um so while  
224 06:01 there's a shrinking market  
225 06:03 and there's growing costs okay  
226 06:06 for the smaller farmers and what's  
227 06:08 happening is the industrial  
228 06:09 corporate farms are actually really  
229 06:12 taking over and taking control of the  
230 06:13 food production  
231 06:16 because the smaller farms can no longer  
232 06:18 compete it's getting harder and harder  
233 06:19 to compete  
234 06:20 so we're having to be faced with um  
235 06:23 food that's coming from you know very  
236 06:25 far away  
237 06:26 and the the idea we all have to be  
238 06:29 traceable  
239 06:30 so every product that's on the  
240 06:33 supermarket shelves  
241 06:34 is every food product is traceable  
242 06:38 okay and that trace ability creates a  
243 06:40 huge amount of paperwork for every  
244 06:42 single farmer  
245 6:43 but that cost is spread out over a  
246 06:45 massive quantity of products  
247 06:47 when you're a massive industrial  
248 06:49 corporate  
249 06:51 food production but if you're a small  
250 06:52 medium farmer that cost is much greater  
251 06:54 to you  
252 06:55 um so what we need to do is balance that  
253 06:58 level that that playing field so that um  
254 07:02 right the problem is this shrinking  
255 07:05 market and rising cost so we need to  
256 07:07 change that around so those problems  
257 07:09 become our solution so that okay we've  
258 07:12 got trace ability right  
259 07:14 we all agree we need the trace ability so  
260 07:40 for there may be more people per product  
261 07:43 let's say  
262 07:44 employed in a smaller industry than  
263 07:45 there would be in a larger industry so  
264 07:48 that becomes a benefit to the person in  
265 07:51 the shop making a decision on what to  
266 07:53 buy they can see clearly  
267 07:55 on a certification or some kind of a  
268 07:58 traceability so the traceability goes  
269 08:00 further than just where  
270 08:02 this product came from it becomes  
271 08:06 as  
272 08:10 a traffic light system or a  
273 08:13 certification system where people can  
274  
08:15 earn points  
08:17 um relating to how economically  
08:20 or how environmentally friendly their  
08:22 product has been  
08:23 produced so it kind of stacks it up a  
08:26 little bit against  
08:27 the mass of big corporations and gives  
08:29 brownie points let's say  
08:36 growing cost becomes  
08:38 a good thing for the smaller producers  
08:41 food has become food production has  
08:43 become incredibly scientific so we're  
08:45 again drilling into the food value  
08:48 right um the poly so it's no longer a  
08:52 cup of coffee it's the polyphenols we're  
08:54 looking for  
08:54 are no longer a glass of wine again the  
08:56 polyphenols or the mushrooms  
08:58 are now valued for their um tri terpenes  
09:01 i think they're called  
09:02 um so but that that also again  
09:06 with certainly with hemp you've got the  
09:08 the cannabinoids it's a very valuable  
09:10 commodity  
09:11 um so i so hemp can come in here  
09:14 on the scientific level um the  
09:16 scientific food production level  
09:19 um the younger demographic okay are  
09:22 choosing  
09:23 making different food choices so hemp  
09:29 actually the biggest demograph of  
09:33 people buying um non-animal protein for  
09:37 instance  
09:38 is actually meat eaters themselves  
09:41 they're choosing to  
09:42 you know maybe two one or two days a  
09:44 week to choose something different  
09:48 so the protein within the hemp or in the  
09:50 hemp  
09:51 products is a tremendous source of  
09:54 protein  
10:07 and it's time to take advantage of the  
10:09 global hemp trend  
10:23 important to separate um  
10:27 sorry the hemp industry from the  
10:28 cannabis industry  
10:30 because it is a different completely  
10:32 completely and utterly different  
10:34 industry  
10:35 um but the hemp industry again is a  
10:38 massively  
10:39 growing internationally traded commodity  
11:00 two weeks ago hemp is practically  
11:05 prohibited in this country you can you



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275 11:06 can grow it all right and you can grow  
276 11:08 it  
277 11:08 for fibre but for food it's pretty much  
278 11:11 prohibited  
279 11:12 and because the amount of  
280 11:16 THC that's allowed in food is so  
281 11:19 tiny now um it's  
282 11:23 you can always say almost say it's  
283 11:24 prohibitive so so for any farmer who's  
284 11:26 looking to come into this industry  
285 11:28 right now with a CBD product or a food  
286 11:30 product they have to be  
287 11:32 incredibly careful they have to know  
288 11:33 what they're doing and it's and actually  
289 11:35 it's very very limiting  
290 12:01 the fact that this is the first  
291 12:02 industry-led uh conference actually  
292 12:05 because there is no  
293 12:06 government agenda here today there's no  
294 12:08 pharmaceutical agenda here today  
295 12:21 so again so the damage caused  
296 12:24 by prohibition right in one sense i am  
297 12:27 talking about  
298 12:28 the broader you know available drugs  
299 12:32 but unfortunately currently  
300 12:35 hemp is, it isn't on one hand falling  
301 12:39 into it, but it is in terms of  
302 12:41 the food safety authority and the  
303 12:44 guardi  
304 12:44 and many of the actors that are in well  
305 12:47 they're not actually in the industry  
306 12:49 they're outside the industry  
307 12:50 um so so the reality is the damage  
308 13:26 won't say single-handedly  
309 13:28 but darn i just said it uh triggered the  
310 13:31 worst  
311 13:31 crime crime wave crime wave  
312 13:35 in history without question of doubt  
313 13:38 it has created a black market with  
314 13:41 massive incentives to hook both adults  
315 13:44 and  
316 13:44 children alike  
317 13:56 dangerous substance substances available  
318 13:59 in schools  
319 14:00 and communities and prisons this is  
320 14:03 prohibition now remember  
321 14:06 it has raised gang warfare to a level  
322 14:09 never seen before and we're all familiar  
323 14:13 with what's going on in the drug  
324 14:17 world it has an impact  
325 14:20 it has removed many important human  
326 14:23 rights and civil liberties of the  
327 14:26 individuals  
328 14:27 that prohibition claims to represent  
329

14:30 we can see that in our prisons  
14:33 it has put previously unknown  
14:38 harmful contaminated drugs on the  
14:42 streets  
14:45 it has escalated thefts muggings and  
14:49 burglaries it has diverted scarce  
14:53 law enforcement resources where are our  
14:57 guardi  
14:58 and what are they doing it has  
15:01 overcrowded and  
15:02 obstructed the courts and prisons just  
15:05 spend a half an hour in the courts and  
15:07 you'll see that very clearly  
15:10 it has evolved and this is important  
15:12 actually evolved  
15:13 local gangs into international  
15:16 enterprises  
15:17 with intricate power structures  
15:21 that reach into every corner of society  
15:24 controlling vast swathes of territory  
15:28 with significant social and military 15:31 resources  
15:32 at their disposal these  
15:35 are the impacts of prohibition okay  
15:41 if prohibition of hemp continues  
15:47 it will limit the growth of the Irish  
15:50 hemp  
15:51 industry by restricting access to state  
15:54 supports banking insurance and  
15:57 investment  
15:58 i mean we're actually already there  
16:00 that's where we are  
16:02 we have been stymied  
16:06 we've had road blocks for the past 20  
16:09 years it's been  
16:09 a constant battle to um  
16:13 get past all the sanctions that have  
16:15 been uh against the industry  
16:16 the licensing system alone is um  
16:20 a pro a prohibition actually for farmer  
16:24 a prohibitive  
16:25 um barrier yeah to  
16:28 farmers to come into the industry okay  
16:31 so if if prohibition of hemp continues  
16:35 it will exclude Irish farmers from a  
16:38 rapidly growing global  
16:39 hemp food sector  
16:39 hemp food sector okay so the whole world  
16:43 is going to take  
16:44 advantage of what's going on if we  
16:48 if the food safety authority and the  
16:50 guard the  
16:51 insist on prohibiting  
16:55 the micro amounts of THC  
17:00 that are in hemp foods

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330 17:03 in this country and this is an i  
331 17:06 just so up till two weeks ago we were  
332 17:10 in a kind of gray area now we're even in  
333 17:13 a more  
334 17:14 gray area actually to be honest with you  
335 17:16 this is a cup of coffee  
336 17:18 this is a regular cup of coffee you know  
337 17:19 what you'd just make for yourself at  
338 17:21 home  
339 17:22 i don't know if you can see the  
340 17:23 difference this is what this is what  
341 17:26 this is what the government is now  
342 17:27 telling us is a cup of coffee  
343 17:29 in in terms of uh what's  
344 17:32 um safe for us  
345 17:35 to have so this the safe THC in food now  
346 17:39 is as weak  
347 17:41 are insignificant actually and um  
348 17:45 it's not it's not that i'm looking for a  
349 17:48 high from my food it's that i'm looking  
350 17:50 for the benefits  
351 17:51 the uh the health benefits from um  
352 17:54 hemp the bio availability of hemp  
353 17:58 um is tremendous has tremendous benefits  
354 18:00 to  
355 18:01 uh the hemp industry so this is 50 times  
356 18:05 weaker this is what they're telling us  
357 18:07 now 50 times  
358 18:10 which is quite significant um a jump  
359 18:14 when they didn't even ask anybody in the  
360 18:16 industry what was their advice what was  
361 18:18 what  
362 18:18 what would they consider safe it was  
363 18:21 just whack  
364 18:22 straight into what what the food safety  
365 18:23 authority decided  
366 18:25 and without any real um  
367 18:30 science and making kind of you know uh  
368 18:33 questionable  
369 18:34 claims and actually we could question  
370 8:37 the science behind  
371 18:38 their uh, I call it prohibition actually  
372 18:41 because  
373 18:42 we're at um 1.1  
374 18:46 of a milligram of  
375 18:50 THC  
376 20:09 micrograms okay so the difference  
377 20:11 between a gram  
378 20:13 and a microgram is one million a factor  
379 20:16 of one  
380 20:17 million right so there's one million  
381 20:20 micrograms  
382 20:22 in that gram a speck of dust  
383 20:35 the the FSAI has given us permission to  
384

20:38 put  
20:38 a hundred micrograms okay  
20:42 100 of those little specks of dust  
20:45 are now um available for us  
20:49 in our hemp foods right traces it's tiny  
20:52 it is it's insignificant  
20:55 i'm sorry where am i um  
21:01 so oh that's going along by toughness  
21:08 of a milligram hundred micrograms per  
21:10 watt  
21:11 per day per body per day per individual  
21:14 per day yeah per person per day  
21:26 continue with the prohibition  
21:28 um  
21:32 we're going to support and he flawed  
21:35 government policy  
21:36 which takes its lead from corporate  
21:38 facing actors  
21:39 new too and i might add poorly disposed  
21:42 to the hemp industry  
21:45 and we will be responsible for the loss  
21:48 of a significant  
21:49 positive impact on the regeneration and  
21:52 the socioeconomic  
21:53 integration of a collapsing of the  
21:56 collapsing rural communities so hemp has  
21:59 a huge potential here  
22:02 um with the right um  
22:06 uh information the right support behind  
22:08 it and it will also be so if we continue  
22:10 with the prohibition we'll be  
22:12 responsible for  
22:13 the loss of the economic supports to  
22:15 encourage small  
22:16 high-quality producers of value-added  
22:19 finished products  
22:20 for internal and export markets across  
22:24 the supply chain  
22:25 that will be lost and e responsible for  
22:27 the catastrophic  
22:28 environmental damage caused by  
22:31 unsustainable  
22:33 corporate facing agri industries  
22:36 so we continue on on an unsustainable  
22:38 path  
22:39 down a path that's already leading us  
22:41 into a crisis  
22:42 and prolong the human deficiency  
22:44 actually and this is  
22:45 interesting of cannabinoids  
22:49 from the recommended daily  
22:52 intake uh allowance uh the required list  
22:56 for minerals and vitamins so actually  
22:57 cannabinoids should be on

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385 22:59 that list currently they are not  
386 23:03 also so just to give you an idea of  
387 23:06 where i'm coming from with the whole  
388 23:07 idea of prohibition um  
389 23:09 there's many pro here's many  
390 23:13 substances that could easily given  
391 23:16 the same criteria the same scientific  
392 23:20 you know and studies let's say the same  
393 23:23 scrutiny yeah exactly and they might  
394 23:27 end up finding themselves banned as well  
395 23:29 so like caffeine i mean  
396 23:32 caffeine i'll just go into them really  
397 23:33 quickly because i know i'm being told  
398 23:34 i've  
399 23:35 minutes left caffeine alcohol  
400 23:39 or tobacco  
401 23:43 sugar um nutmeg  
402 23:47 myristasin as a leucitogenic oddly  
403 23:49 enough and poppy seeds we all know poppy  
404 23:51 seeds  
405 23:52 10 micrograms is considered safe of the  
406 23:55 codeine of morphine that's in poppy  
407 23:57 seeds 10  
408 23:5 that's 10 times what's considered safe  
409 23:59 THC  
410 24:01 and we're allowed cheese contains  
411 24:05 um tryptophan which makes you feel  
412 24:08 relaxed and calm i didn't have my cheese  
413 24:11 this morning  
414 24:12 red meat also contains tryptophan so i  
415 24:15 mean  
416 24:16 it's the vocabulary around um these  
417 24:19 these are in the foods these are we eat  
418 24:22 these foods to  
419 24:25 to feel a positive to feel the positive  
420 24:27 effect not only from the nutrition  
421 24:36 contains an  
422 24:36 anandamide uh and tryptophan actually  
423 24:40 um ananda means bliss  
424 24:43 that's what ananda means it's the amide  
425 24:46 is protein so it's the bliss protein  
426 24:48 and in cocoa  
427 24:52 a broad beans have a substance or a  
428 24:54 molecule called el dopa  
429 24:56 which is used a psychoactive used in the  
430 25:00 treatment of parkinson's disease  
431 25:02 so these are these i mean this is a tiny  
432 25:04 list compared to what's actually out  
433 25:06 there  
434 25:06 in our foods what we are and this is  
435 25:08 where i'm saying the  
436 25:09 the science of food is changing right  
437 25:13 um and so what was the problem for us  
438 25:16 now actually we can highlight  
439  
25:18 where the the language around THC the  
25:21 language our attempt to rank for  
25:22 cannabis is very provocative let's say  
25:25 when we just we talk about uh caffeine  
25:28 or sugar  
25:28 it's a mood enhancer when we talk about  
25:30 um cannabis  
25:31 our THC it's a toxin you know it's so  
25:34 you know we have to be equal  
25:35 uh just equal the language  
25:41 these companies i know it's probably not  
25:43 terribly clear but you have no  
25:45 problem recognising who they are these  
25:48 are the corporate  
25:49 facing industries i'm talking about food  
25:52 producers  
25:53 um none of these companies have any  
25:55 qualms about using  
25:57 caffeine sugar whatever i mean actually  
26:00 if you want to know how addictive sugar  
26:02 is try giving it up  
26:04 try giving sugar up and you'll know very  
26:06 clearly  
26:07 how addictive it actually is and yet  
26:10 it's  
26:11 okay there's sugar tax on certain foods  
26:14 but it's  
26:14 accepted there is no language around  
26:17 sugar that makes  
26:18 it in syndry let's say  
26:22 so to future proof the hemp industry um  
26:26 we need to actually disentangle  
26:28 ourselves from  
26:29 the history of prohibition from the  
26:31 historic language  
26:33 around hemp around THC  
26:36 and we need to challenge the claims that  
26:39 the  
26:40 FSAI the FSAI  
26:42 are making and create a sensible  
26:45 legislation so if  
26:46 if they had have come before they wrote  
26:48 the report if they had to come to the  
26:50 industry  
26:50 they would have got a much more balanced  
26:52 view actually  
26:54 the um international and international  
26:57 narcotics control board  
27:01 they well first of all they say hemp  
27:02 isn't isn't on the list it doesn't  
27:05 fall under and the control of drugs act  
27:09 and it's misleading to put it under  
27:11 there but  
27:12 these corporate actors



440 27:16 purposely mislead governments  
441 27:20 uh government agencies um  
442 27:23 so that they can bring in their own  
443 27:26 agenda  
444 27:26 actually is the truth of what's going on  
445 27:31 we need to we need the opportunity to  
446 27:33 really reduce  
447 27:35 reduce the to uh  
448 27:39 release rather the um the deal that hemp  
449 27:41 actually is  
450 27:42 it's really important it has a huge  
451 27:44 value um  
452 27:48 industry needs  
453 27:50 upwards ny small industry to get  
454 27:52 started needs upwards of a thousand  
455 27:53 acres  
456 27:54 okay so that's where we're at  
457 27:58 there i don't think there may be one or  
458 28:00 two industries in the country that are  
459 28:02 close to a thousand acres but you know  
460 28:04 to get the to get enough product behind  
461 28:06 you to go to market  
462 28:07 you've got you're talking about a  
463 28:08 thousand it doesn't matter what your  
464 28:09 product is it doesn't matter at all  
465 28:11 you're going to need  
466 28:12 uh you know to really hit the world  
467 28:14 market you're going to need a thousand  
468 28:16 acres at least  
469 28:18 hemp can out pay i'm not going to i'm not  
470 28:20 going to put a figure  
471 28:21 figure on it sean it it can out pay any  
472 28:24 other agricultural crop  
473 28:25 no question if we are allowed the value  
474 28:29 that's there  
475 28:30 okay and the global abundance program  
476 28:33 which marcus will talk about  
477 28:35 is another way of future proofing the  
478 28:37 industry it's a very interesting um i  
479 28:39 don't think he's  
480 28:40 going to touch on it for much but he'll  
481 28:41 give you a little bit more information  
482 28:42 about this global abundance  
483 28:44 program and the regenerative farming  
484 28:45 that shawn has talked about  
485 28:47 Ireland will be will sorry will Ireland  
486 28:50 be  
487 28:51 first to market or will we just lag  
488 28:52 behind and  
489 28:54 lose miss an opportunity that and in  
490 28:57 order to do  
491 28:58 to take up the opportunity we have to be  
492 28:59 prepared to put a little bit of effort  
493 29:01 in it's not like sean said it isn't  
494

29:02 going to happen overnight  
29:03 it's going to take a couple of years we  
29:06 need to  
29:07 get the experience become  
29:10 hemp farmers so that doesn't happen  
29:12 overnight for sure

Favours criminals to have prohibition or they have no business, they will lobby government to keep illegal

#### 1.4. Anita Hemmila speaks at the Hemp Federation Ireland Conference on the reintroduction of hemp in Finland and elsewhere <https://www.youtube.com/watch?v=iRXjLMoyJCc> and was not coded as the majority of the presentation is a history of hemp in Finland and not relevant to the research question

09:42 really focusing on the fibre  
09:44 which seems to be the case with all the  
09:46 people that start  
09:47 uh start with him during modern times  
09:50 that they focus on the fibre aspect  
09:58 in the police or the police will not  
10:01 perhaps  
10:02 drug content so although we were using  
10:05 these trends variety  
10:08 which are very low in THC as the most  
10:13 probably more already nevertheless uh  
10:17 by bringing this issue up in the in the  
10:20 newspaper  
10:21 you know it becomes sort of a bigger  
10:24 thing that what really was in the end  
12:30 and the police however the situation is  
12:34 not yet clear for the authorities  
12:36 in this hankasami case the police were  
12:39 afraid of possible side effects  
12:41 and unauthorized visits to the hemp  
12:44 field  
12:45 says the crime commission commissioner  
12:48 paulie huskin  
12:49 the central police discusses the  
12:51 principles concerning comparable future  
12:54 cases today  
12:55 advanta representation from the ministry  
12:58 of agriculture  
12:59 and forestry is also so  
13:03 as you can see from this article the  
13:06 emphasis is very much  
13:07 on the legality or the possible  
13:11 illegality of what we were doing  
13:14 and that's why the hemp field was cut  
13:17 down  
4:02 emphasis

14:03 of the police needing guidelines for  
14:05 help hemp cultivation  
15:23 and that's why we had unwanted disciples  
15:26 there  
15:26 were some youngsters that came to  
15:30 get some plants when they were still  
15:31 growing there so  
15:33 that is the side effects the unpleasant  
15:35 side effects that the police

**1.5. Stefan Nolker Wunderwald speaks at the Hemp Federation Ireland <https://www.youtube.com/watch?v=khPSdKM39YU> Germany perspective**

different labelling different regulations

**1.6. Professor Peter Thorne Climatologist NUI Maynooth speaks at the Hemp Federation Ireland Conference, expanding agriculture practices to reduce our national carbon footprint <https://www.youtube.com/watch?v=7EaqpU0U-Lw&t=1342s>**

21:34 and in a joined up way which land has to  
21:36 be part of the solution but land can't  
21:39 do it all  
21:42 we have options the good news is several  
21:46 of those options  
21:47 do not increase the competition for land  
21:51 so we can enact a solution that does not  
21:53 compete with other solutions  
21:55 or other uses of the land  
22:00 but land use contributes about one  
22:02 quarter of current global  
22:04 greenhouse gas emissions  
22:07 at the same time land ecosystems  
22:1 particularly undisturbed ecosystems  
22:13 can take up huge amounts of carbon  
22:18 some of the mitigation options include  
22:20 things like improving the peatlands  
22:25 but there are barriers there are always  
22:27 barriers to implementing adaptation and  
22:29 mitigation options there are always  
22:31 entrenched  
22:32 interests so gross emissions from  
22:35 agriculture forestry and other land use  
22:37 make up about a third of the total  
22:39 greenhouse  
22:40 global emissions  
22:43 but land accounts for 61% of our human  
22:47 methane emissions that's  
22:50 ruminants and rice primarily ruminants  
22:57 and fifty percent of the nitrogen

22:59 applied to agricultural land as  
23:01 fertilizers is not taken up by the crop  
23:04 and results in n2o emissions and then to  
23:06 n2o us another greenhouse  
23:08 gas so you need to be very smart in your  
23:11 application of fertilizer if you don't  
23:13 want to leave a greenhouse gas footprint  
23:15 on the  
23:16 on the atmosphere  
23:20 grazing lands are responsible  
23:23 for more than one-third of the total  
23:25 anthropogenic  
23:27 n2o emissions and one-half of  
23:29 agriculture  
23:31 emissions so  
23:34 ruminants really are the bad boys here  
23:36 there is no getting away from that 23:38 scientifically  
there is no way of  
23:40 sugarcoating that message  
23:42 scientifically it is ruminants that have  
23:46 the greatest intensity  
23:48 greenhouse gas intensity of any  
23:51 agricultural production  
23:54 about a quarter of the mitigation  
23:56 pledged under the Paris agreements is  
23:58 likely to come from land-based  
24:00 mitigation so from the agricultural  
24:02 sector  
24:06 the largest potential is for reducing  
24:09 emissions  
24:09 through reduced deforestation or forest  
24:13 degradation  
24:15 a shift to plant-based diets and reduce  
24:19 food and agricultural waste now the ipcc  
24:22 can't tell people to go vegetarian  
24:25 but it is saying that if you want to  
24:28 reduce the greenhouse gas emissions  
24:30 you do need to become more vegetable  
24:34 based in your diets  
24:37 response options the mitigate global  
24:42 warming will also affect the climate  
24:43 locally and regionally  
24:45 so if you change the land use if you  
24:47 change the irrigation you will change  
24:50 the surface characteristics and that  
24:53 will affect the climate  
24:58 locally  
25:00 strong land-based mitigation  
25:04 scenarios include emissions reduction in  
25:07 other sectors  
25:09 and limiting to one and a half or two  
25:13 degrees would require conversion of  
25:15 large  
25:15 swathes of land for afforestation

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550 25:19 reforestation and bioenergy crops  
551 25:24 so we need to requisition the land that  
552 25:26 is currently grazed  
553 25:28 for example and reforest it  
554 25:32 and use it to burn bio energy to  
555 25:35 to grow bioenergy crops  
556 25:39 the good news is the land that we are  
557 25:40 already using could feed the world in a  
558 25:42 changing climate and provide biomass for  
559 25:44 renewable energy  
560 25:46 but there's always a but it would  
561 25:48 require early and far-reaching action  
562 25:51 across several fronts the land  
563 25:54 degradation adversely affects people's  
564 25:57 livelihoods  
565 25:58 and occurs over about a quarter of the  
566 26:00 earth's ice-free land areas  
567 26:03 and it may not feel like it but there  
568 26:05 are almost certainly is land degradation  
569 26:08 going on in Ireland  
570 26:10 there are soils today which are  
571 26:12 impoverished  
572 26:13 compacted less productive  
573 26:17 that you get into this vicious cycle of  
574 26:19 applying more and more fertiliser  
575 26:21 and pesticide to keep the land as  
576 26:24 productive as it once was  
577 26:28 so land use changes and unsustainable  
578 26:31 land  
579 26:31 management are direct human causes of  
580 26:34 degradation  
581 26:36 and agriculture is dominant in that  
582 26:38 degradation  
583 26:41 climate change exacerbates those  
584 26:43 underlying issues  
585 26:45 fundamentally  
586 26:50 so land degradation is the driver of  
587 26:52 climate change  
588 26:55 a degraded land holds less carbon it  
589 26:58 actually releases carbon  
590 27:00 so when you impoverish the land your  
591 27:02 land changes from perhaps say  
592 27:05 net sink to a net source  
593 27:08 so you exacerbate the problem and in  
594 27:11 some cases land  
595 27:12 degradation can be either avoided  
596 27:14 reduced or reversed by  
597 27:16 implementing sustainable land management  
598 27:18 restoration and rehabilitation practices  
599 27:23 lack of action to address land  
600 27:25 degradation on the other hand  
601 27:29 will increase emissions and reduce  
602 27:32 carbon sinks inconsistent with  
603 27:36 the emission reductions required to  
604

27:38 limit global warming to one and a half  
27:39 to two degrees  
27:40 so if we continue business as usual if  
27:42 we continue the over production over  
27:45 exploitation degradation of land  
27:47 fundamentally  
27:49 it will become much much harder to meet  
27:51 one and a half  
27:52 two or any other climate target the more  
27:55 we degrade and overuse the land the more  
27:57 the land turns into a net carbon  
28:00 source and the harder it gets to  
28:02 maintain  
28:03 the climate where we want it to be  
28:09 what do we need to do to move this  
28:11 forwards well we need a mix of policies  
28:15 we need regulation we need land use  
28:18 zoning  
28:19 land sparing and land sharing approaches  
28:22 and that's where  
28:23 for example the re-imagined cap could  
28:26 come in  
28:27 if we do cap well the common agriculture  
28:30 policy well and tier one and tier two  
28:32m well  
28:33 we could imagine a payment structure  
28:36 that actually rewarded  
28:38 doing the right thing in the right place  
28:42 sightings of renewable energy needs to  
28:46 be  
28:47 consistent with local livelihoods and  
28:50 needs we need to include  
28:54 costs of environmental effects  
28:56 fundamentally  
28:58 we need to worry about land tenure  
29:03 we also need to worry about voluntary  
29:06 changes by citizens  
29:07 not the farmers themselves necessarily  
29:10 but citizens  
29:13 are they going to change diet standards  
29:16 certification collective action is  
29:19 is movement going to occur from the  
29:20 citizens  
29:23 persuasive this is where again where the  
29:26 cap can come in payments for ecosystem  
29:29 services if part of the cap payment  
29:32 is hedgerow maintenance which maintains  
29:35 the healthy ecosystem  
29:37 all the better  
29:42 early warning systems and risk  
29:45 risk sharing mechanisms  
29:48 so they're talking about a broad kind of  
29:54 parchment that you have to fill in there  
29:58 are many things that have to happen

605 30:00 to get movement in this land use  
606 30:04 so there is limits to adaptation and  
607 30:09 land-based carbon sinks there are limits  
608 30:11 to what we can do this  
609 30:13 is all about that land can do part of  
610 30:15 the problem but can't do it all  
611 30:18 we can't take everything on land  
612 30:22 and land management we have to do other  
613 30:25 things  
614 30:26 coordinated action to tackle climate  
615 30:28 change can simultaneously improve the  
616 30:30 land  
617 30:31 food security and nutrition and help to  
618 30:33 end hunger  
619 30:36 so one of the crazy things is that  
620 30:39 uh currently nearly a billion people are  
621 30:43 currently under now  
622 30:44 undernourished while two billion adults  
623 30:48 are either  
624 30:48 overweight or obese it's not that we  
625 30:51 don't  
626 30:52 have enough food it's that we don't  
627 30:54 distribute that food equitably across  
628 30:56 society  
629 30:59 but the food system is under pressure  
630 31:02 from non-climate stressors  
631 31:05 and from climate change  
632 31:09 climate change is already affecting food  
633 31:11 security  
634 31:13 through increasing temperatures changing  
635 31:15 precipitation patterns  
636 31:17 and extreme events and it's going to get  
637 31:20 worse  
638 31:22 and distribution of pests and diseases  
639 31:25 will change affecting production  
640 31:27 negatively in many regions  
641 31:33 so food and emissions  
642 31:36 25 to 30 globally of emissions down to a  
643 31:40 food  
644 31:40 production  
645 31:45 we can do better supply side practices  
646 31:47 can help mitigate climate change by  
647 31:49 reducing crop and livestock emissions  
648 31:51 absorbing carbon in soils and biomass  
649 31:53 and decreasing emissions intensity  
650 31:58 consumers can do their best in terms of  
651 32:00 their diet  
652 32:03 and we can all do a bit better on  
653 32:05 reducing the massive amount of loss and  
654 32:07 waste that occurs  
655 32:08 in the system and politics  
656 32:12 policies markets institutions and  
657 32:15 governance and meet needed to make that  
658 32:17 change  
659

32:18 but as i said better land management can  
32:20 play its part in tackling climate change  
32:22 but it can't do it all  
32:24 what are the options land challenges and  
32:28 response options vary based upon region  
32:31 and context which means Ireland's  
32:33 response options are different to  
32:36 brazil's  
32:37 but equally donegal's might be different  
32:40 from wexfords  
32:42 so there is a need to recognize  
32:44 differentiated opportunities  
32:46 and options  
32:50 some options a plus a win-win  
32:56 most options can be applied without  
32:58 competing for the available land  
33:02 but some options could greatly increase  
33:08 competition  
33:10 bioenergy and BECCS which is bioenergy  
33:18 are scale dependent but they have a  
33:19 large mitigation potential so if we can  
33:22 grow  
33:22 instead of burning coal at money point  
33:25 we could grow  
33:26 a sustainable crop and burn that at  
33:29 money point  
33:30 and furthermore capture that carbon as  
33:32 it's  
33:33 that carbon from that burning process  
33:36 and  
33:37 store it deep in the ground then we  
33:40 could remove carbon from the system  
33:44 mono culture bio energy crops they  
33:47 can result in land competition and have  
33:50 adverse effects for  
33:52 food land degradation biodiversity and  
33:54 water scarcity  
33:57 which is that the potential for  
33:59 mitigating climate can only be realised  
34:01 if agricultural emissions are included  
34:03 in mainstream climate policy  
34:06 we cannot continue what has been the  
34:08 case at the national level  
34:10 of agriculture constantly bleeding  
34:13 special case  
34:14 agriculture needs to be in the  
34:16 mainstream of our climate policy if it  
34:19 is to be effective  
34:23 acting early will avert or minimise  
34:26 risks reduce  
34:27 losses and generate returns on  
34:32 investment  
34:34 measuring progress towards goals is  
34:36 important to decision making

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660 34:37 adaptive governance and policy success  
661 34:41 and we need a flexible adaptive  
662 34:44 iterative approach  
663 34:46 so those are the two special reports  
664 34:49 what the heck does this mean for us  
665 34:51 nationally in our national context  
666 34:58 well our agriculture sector for a  
667 35:01 developed nation we have a huge  
668 35:03 proportion of our emissions  
669 35:05 in agriculture the norm in a developed  
670 35:08 nation  
671 35:09 is that we have five to ten that they  
672 35:11 have five to ten percent of their  
673 35:13 emissions profile is agriculture we have  
674 35:16 a  
675 35:16 third so we have a huge  
676 35:19 challenge and everybody recognises that  
677 35:22 agriculture is the hardest nut to crack  
678 35:25 but if we're going to get to net zero  
679 35:27 we're going to have to crack it  
680 35:29 and the challenge is going to be for  
681 35:31 Ireland how to do that  
682 35:35 why is it such a problem well our  
683 35:36 predominant farming is of ruminants  
684 35:39 cattle and sheep that emit methane which  
685 35:41 is a powerful greenhouse gas  
686 35:45 it's also a short-lived greenhouse gas  
687 35:47 it has 9 to 11 year half-life and you  
688 35:49 will have heard in the news  
689 35:51 this it doesn't matter because it's  
690 35:53 short-lived  
691 35:54 and it doesn't matter because it it  
692 35:57 gets removed quickly and therefore we  
693 36:00 shouldn't be beaten over the head for it  
694 36:03 well there's a couple of problems with  
695 36:05 that  
696 36:07 one is that methane's primary means of  
697 36:10 removal there's oxidation  
698 36:12 in the troposphere and that oxidation is  
699 36:14 the water vapor and carbon dioxide  
700 36:18 so you swap one very powerful  
701 36:20 short-lived greenhouse gas  
702 36:22 three much less powerful but very very  
703 36:25 much  
704 36:25 longer-lived greenhouse gas  
705 36:29 so actually if we wanted to keep  
706 36:31 Ireland's  
707 36:33 total agriculture sector contribution  
708 36:36 stable we would need to reduce the  
709 36:39 national herd emissions two percent  
710 36:42 year-on-year  
711 36:43 because that two percent is the effect  
712 36:46 of the CO<sub>2</sub>  
713 36:47 oxidation escape pathway of methane  
714

36:51 so we can't keep the herd the same we  
36:53 can't keep the herd emissions the same  
36:55 we're actually  
36:56 incrementally adding to our greenhouse  
36:58 gas burden  
36:59 but the bigger issue here is think about  
37:03 natural island without human  
37:04 interference there would be a  
37:06 vanishing small number of ruminants on  
37:09 the land  
37:11 so our natural methane emissions from  
37:14 ruminants would be as close as damage  
37:16 zero so they're elevated  
37:21 due to our influence saying well now  
37:23 we've elevated them we can't do anything  
37:25 doesn't seem to me to be a fair and just  
37:29 way to think about a transition when we  
37:31 have a finite amount of carbon that we  
37:34 can  
37:34 emit if we're to keep globally between  
37:37 one and a half or two degrees  
37:39 it isn't an argument that to me makes  
37:41 any sense  
37:46 what can we do well we can diversify  
37:49 and in here this is a bar chart the  
37:53 length of the bars  
37:54 is the total carbon intensity  
37:57 of different food types and basically  
38:00 the top four bars  
38:01 here are various types of cows and cows  
38:05 and sheep  
38:06 and everything else is everything else  
38:09 so fundamentally whatever we diversify  
38:12 away from that isn't cattle  
38:15 and sheep we will reduce our  
38:18 impact upon the environment why else  
38:21 would we  
38:22 diversify well it would increase our  
38:26 national resilience if we produce more  
38:28 of what we consume  
38:30 we can grow broccoli and yet we import  
38:33 it from south east Spain  
38:34 why it doesn't make any sense  
38:39 it would also reduce our dependency upon  
38:41 a single market  
38:43 we are fundamentally dependent upon the  
38:46 price point of beef  
38:48 as has been very well been shown and  
38:52 dairy products if the market fell bottom  
38:54 falls out of that market  
38:57 there's nowhere to go because the sector  
38:59 is uniquely dependent upon that one  
39:02 source of income that one market  
39:07 it would reduce the risk profile of the



715 39:09 sector to out  
716 39:10 outbreaks of pests and diseases and i  
717 39:12 know when I've said this on national  
718 39:14 media I've been  
719 39:15 pilloried for it but hopefully covid 19  
720 39:18 is a wake-up call to people that new  
721 39:22 pests and diseases  
722 39:23 new virulent forms of disease  
723 39:27 can and will come up they come up to  
724 39:28 humans they come up to  
725 39:31 cattle and other animals why  
726 39:35 run the risk when you can diversify the  
727 39:38 sector  
728 39:40 you should also address the biodiversity  
729 39:42 challenges that we have  
730 39:45 and it can also be diversified into  
731 39:49 other things  
732 39:50 all those roofs on the on the milking  
733 39:53 sheds  
734 39:55 they could capture that sun if we got  
735 39:58 our energy market right  
736 39:59 you could export it onto the grid and  
737 40:02 you could have a base  
738 40:04 um income that had nothing to do with  
739 40:06 agricultural production at all but  
740 40:08 actually was about  
741 40:10 how you use the land to produce energy  
742 40:12 in addition  
743 40:14 what does it need it needs incentives it  
744 40:16 needs cap reform and national policy to  
745 40:18 be lined up we need to stop  
746 40:21 supporting fundamentally  
747 40:24 the development of specialisation in  
748 40:27 beef  
749 40:28 and dairy and we need to promote  
750 40:31 diversification  
751 40:32 we fundamentally need the right choices  
752 40:35 in the right place  
753 40:36 which means we need a national land use  
754 40:38 plan that is non-prescriptive  
755 40:41 so we need to understand what we have  
756 40:43 where in terms of land  
757 40:45 and what is possible to grow where what  
758 40:48 use of the land is possible to put where  
759 40:51 and we need to avoid silly things like  
760 40:53 putting planting forests on peat bogs  
761 40:55 peat bogs are really our friends  
762 40:57 in two ways they are a multi-centennial  
763 41:01 sink of  
764 41:01 carbon and they are also great at  
765 41:04 regulating water flows  
766 41:07 the Shannon would not have flooded like  
767 41:09 it has in this last month  
768 41:11 if we had retained our up our raised  
769

41:14 peat bogs over the midlands  
41:16 they would have soaked it up they would  
41:18 be releasing it over the entire  
41:20 summer season we've denuded them  
41:23 and they're not there any longer so we  
41:26 need appropriate and profitable options  
41:29 to the particular context of each farm  
41:32 not every farm will be able to grow a  
41:35 given crop  
41:37 but we need to give each farm a range of  
41:39 options that are actually sensible and  
41:41 that are  
41:42 not prescriptive but are avoiding them  
41:45 making the wrong choices  
41:47 we need community buy-in and we need it  
41:49 to be a just transition  
41:51 if someone spent a hundred thousand  
41:54 euros on a new milking parlor  
41:57 we can't just say hard luck you're no  
41:58 longer allowed to grow  
42:00 you're no longer allowed to produce  
42:02 dairy you've got to do something else  
42:04 without any recompense at all we have to  
42:07 have a just transition for the sector  
42:09 the sector absolutely needs to diversify  
42:13 in many different ways so that we are  
42:15 not dependent upon a single market a  
42:17 single product  
42:18 patchwork quilt island sounds very nice  
42:20 to me  
42:22 it's robust it's diverse  
42:26 it supports the robust and diverse rural  
42:28 economy so  
42:30 that's all I had to say on climate and  
42:32 well i think we should be going

**1.7. Ed Hanbridge speaks at the Hemp Federation  
Ireland Conference on Why join the Co Op**  
[https://www.youtube.com/watch?v=z3br2\\_wv4sU](https://www.youtube.com/watch?v=z3br2_wv4sU)

00:20 now uh the co-op is going on the seven  
00:23 pillars  
00:24 and it's sort of the different aspects  
00:26 of it let you have  
00:27 your personal well-being being the likes  
00:29 of your CBD  
00:31 the food then is your seed and the oils  
00:34 the carbon then is the carbon that the  
00:38 hemp will sequester and we know that  
00:41 it's a good bit  
00:42 the rural generation uh that's really a  
00:45 big one for the co-op because

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770 00:47 um we want to get  
771 00:51 people back working to the land sort of  
772 00:53 producing locally  
773 00:55 processing locally and selling locally  
774 00:57 and that's sort of  
775 00:59 the idea that we have animal welfare is  
776 01:02 sort of feed bedding things like that  
777 01:06 and bioeconomy there is the  
778 01:10 um the likes of your bio refineries now  
779 01:13 that  
780 01:13 are coming in they've done the test with  
781 01:15 the grass and we're hoping to get tests  
782 01:17 done then with the with the likes of the  
783 01:18 hemp and things like that and get the  
784 01:20 oils and  
785 01:20 the different aspects of it and it's  
786 01:23 just construction then  
787 01:24 building uh we know that that's the big  
788 01:26 one um  
789 01:28 so that's that's really where we're  
790 01:30 looking at that you have to start  
791 01:32 processing  
792 01:32 get your build materials out there and  
793 01:35 um  
794 01:36 build build an industry is basically it  
795 01:42 uh so the hubs is basically  
796 01:45 uh going to be broken down that you will  
797 01:47 have  
798 01:48 the the co-op being a sort of an  
799 01:51 umbrella and under that then  
800 01:53 you have you'll have regional ones and  
801 01:55 even county because the more of these  
802 01:57 hubs that we have the better  
803 01:59 and the more people that are producing  
804 02:02 locally  
805 02:02 um that's really what we want to see  
806 02:06 in Ireland get people back working  
807 02:09 locally not having to go to Dublin and  
808 02:12 be in a car park for  
809 02:13 two hours every day so um  
810 02:17 they're the the members then that were  
811 02:20 hoping to get into the co-op then are  
812 02:23 farmers of course because we need to to  
813 02:25 grow it  
814 02:26 but more so you want the processors  
815 02:29 and we need to to build these markets  
816 02:31 and the marketing of the whole thing  
817 02:33 is uh vital to the whole thing that we  
818 02:35 need the processors  
819 02:37 to to start developing products  
820 02:40 to start the marketing  
821 02:43 and that sort of thing and so if you're  
822 02:47 researching we want those people uh  
823 02:50 retailers the same  
824

02:51 we need everyone across the board so  
02:53 like  
02:54 anyone's name could be up on this uh  
02:57 board really  
02:58 because there's so many uh aspects to  
03:00 the  
03:01 hemp that's it's just there's no end to  
03:03 the amount of people that's needed  
03:06 um ah jenny  
03:09 so the benefits really to the co-op  
03:13 and why you would want to join is  
03:16 the support that you'll get and i have  
03:19 noticed that i  
03:20 i've got a lot of support from them that  
03:23 when i started growing  
03:24 that there wasn't these conferences  
03:26 going on  
03:27 and there wasn't anywhere really to get  
03:29 your information apart from the internet  
03:31 and the internet can light you  
03:33 that's uh you don't want to believe  
03:36 everything that you read that you really  
03:37 have to get out there and start  
03:39 learning by doing or that's what we did  
03:40 i did anyway to  
03:43 to try and progress to things so but  
03:46 with that it did you  
03:49 i did build up networks and got to know  
03:51 an awful lot of people and  
03:53 even here today like it's it's through  
03:56 that network and  
03:57 and that you get information and  
04:00 education so like that is a big key to  
04:03 the whole thing is the  
04:04 the educational side of it and when  
04:06 you're in the co-op  
04:08 um you do get that that you you have  
04:10 that sort of  
04:11 inclusion that people will  
04:15 talk to you they'll give you their  
04:16 information and it's  
04:19 vital going down going forward because  
04:22 um  
04:23 you need that information you need to  
04:24 know what mistakes have been made  
04:27 was um what's the best way of doing  
04:30 different things  
04:31 so it's all um  
04:34 it's about that networking and the more  
04:37 people that's in it  
04:38 the more information is gathered and the  
04:40 more that  
04:41 information then can be used for people  
04:44 coming afterwards

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825 04:46 uh the price of things is is a big thing  
826 04:49 as well that  
827 04:50 you'd be hoping with the co-op you will  
828 04:52 have a more buying power for a start  
829 04:55 that say for the likes of sowing season  
830 04:58 isn't too far away now  
831 04:59 that you'll have buying power there for  
832 05:01 buying your seed  
833 05:02 even the machinery that's needed um  
834 05:06 i don't know if the co-op is actually  
835 05:08 going to buy the machinery but it will  
836 05:10 be able to promote any of the people  
837 05:13 that have machinery in the co-op  
838 05:15 and that you're known and it's it's  
839 05:17 really all about advertising as well  
840 05:19 that  
841 05:20 once you the the marketing side of  
842 05:21 things is  
843 05:23 vital that marketing once you start you  
844 05:26 can't stop because people do forget easy  
845 05:29 so you need to start that marketing  
846 05:32 and then you'll have that brand then  
847 05:34 behind you that  
848 05:36 if you have supplied the co-op and they  
849 05:37 have products on the shelf or  
850 05:39 they'll they'll advertise your products  
851 05:42 to  
852 05:42 the other members it's advertising  
853 05:45 and it's a  
854 05:46 way of getting your product out there  
855 05:48 and that's what  
856 05:49 um i'm finding with the the hemp trade  
857 05:52 that the whole hemp enterprise at the  
858 05:54 minute  
859 05:55 that the hype of things is  
860 05:58 quite high but it can be hard enough to  
861 06:02 get out there and start selling  
862 06:03 that when you're in the field doing what  
863 06:06 has to be done  
864 06:07 you might not necessarily be out on the  
865 06:09 road selling  
866 06:10 and with a co-op then there'll be more  
867 06:12 people involved there'll be  
868 06:14 there will be sales people not all of  
869 06:16 them will be farmers  
870 06:18 and it's about having everyone sort of  
871 06:20 working together  
872 06:21 to get the products out there and get  
873 06:22 them sold  
874 06:24 and and then those members will have  
875 06:26 benefits such as getting cheaper  
876 06:28 products then through the co-op  
877 06:29 so that's another advantage  
878 06:35 people have different reasons for  
879  
06:36 joining the co-op  
06:39 most people it's it's financial it's to  
06:42 make more money  
06:44 but you have to have a common goal most  
06:46 people  
06:47 that are going to join a co-op will have  
06:48 that common goal and it is to see the  
06:50 hemp  
06:51 flourish it's to get to  
06:54 see an industry development from this  
06:57 plant  
06:57 because we all know that this plant is a  
06:59 good one and um  
07:03 but you can also uh  
07:07 you will get different uh benefits like  
07:09 the access to different things through  
07:11 your co-op  
07:12 and that might be a benefit of joining  
07:14 your co-op  
07:15 that's you'll get first choice on the  
07:18 products  
07:19 to be sold or you'll get your seed  
07:22 you'll get the first  
07:23 dibs on seed different things like that  
07:26 um  
07:27 the refunding then is is just that  
07:30 same thing that you can get the  
07:32 discounts on seed when you buy it in  
07:34 bulk  
07:36 and um but the dividend i suppose is the  
07:40 main one that you will join the  
07:41 co-opts as a collective you should  
07:43 make more money  
07:45 and that's what a lot of things boiled  
07:48 out at the end of the day  
07:49 is actually making money profit is is  
07:52 not a dirty word or anything so it's  
07:54 it's about making money and then  
07:57 people that just want to be involved in  
08:00 the whole thing that they see the hemp  
08:01 as  
08:02 the the future and they want to be  
08:05 sustainable environmentally friendly and  
08:07 there is  
08:08 that side of it then as well  
08:12 um so  
08:16 a cooperative in general i suppose is  
08:18 looking to be profitable  
08:20 and that will make the social side of  
08:24 things like the  
08:25 once it's profitable it'll be creating  
08:26 new jobs  
08:28 so if we can have more jobs than locally  
08:30 that's what we want to see

880 08:32 and by that then your your the whole  
881 08:35 local economy will do better  
882 08:37 and um when it's sustainable  
883 08:41 uh i mean there's no reason why we can't  
884 08:44 do it so if it's sustainable  
885 08:45 the the whole rural side of things will  
886 08:48 get better and  
887 08:49 um i like being out in the country i'm  
888 08:52 not a fan of being in the cities having  
889 08:54 to go to work that way  
890 08:55 so i'd like to see the local people  
891 08:58 doing  
892 08:59 uh doing better out the whole industry  
893 09:02 and it's to be self-sufficient then as  
894 09:05 well that when you have the co-op it'll  
895 09:07 be  
896 09:08 um everyone will be working together  
897 09:11 so that's really what has about has been  
898 09:13 included in it  
899 09:15 and um  
900 09:19 yeah it's it's it's for our young people  
901 09:21 then as well coming  
902 09:23 behind us like i have three kids and i'd  
903 09:26 like to see them  
904 09:27 get a job locally not have to go to  
905 09:29 Australia or  
906 09:31 New Zealand wherever so that's another  
907 09:34 side of it that  
908 09:35 i want to see the younger people  
909 09:38 look at him now not as a as a taboo but  
910 09:41 as something that they're going to use  
911 09:42 in their daily lives

#### 1.8. Video Kate Carmody Chairperson of Hemp Cooperative Ireland

916 09:49 through the co-op i've had a better  
917 09:50 chance of success and  
918 09:52 i've found some markets through the  
919 09:56 co-op  
920 09:57 and i've been getting that help and  
921 09:59 trying to  
922 10:01 find your way through all the  
923 10:02 legislation that there is at the minute  
924 10:04 is tricky  
925 10:04 so when you have more people working on  
926 10:07 it it's easier to  
927 10:09 get through the problem and  
928 10:13 that's this is just a video i was going  
929 10:16 to show  
930 10:21 you don't know me where the hell is  
931 10:23 producing hemp  
932 10:25 improving their soil health and widening  
933  
934

10:29 their product range they grouped  
10:31 together  
10:32 from this cooperative included  
10:35 architects and processors  
10:37 of this very interesting culture and are  
10:40 now producing more and more hem  
10:43 for various purposes  
11:02 i first came across him when i was here  
11:05 in Finland  
11:06 as part of a European project about  
11:09 traditional food  
11:11 as a biochemist i just fell in love with  
11:14 the flash when i realised how much it  
11:16 was doing  
11:17 and what also interested me as an  
11:19 environmentalist  
11:21 is the fact that it has stopped the good  
11:23 plan for saving the planet  
11:27 i grew two atheists and one of my  
11:30 journalist friends i didn't like to do  
11:32 an article about it  
11:34 when the newspaper article appeared we  
11:36 had a lot of temperatures  
11:38 and then Jim Lima arrived with  
11:41 and said would i be interested in  
11:44 getting together a group of people  
11:46 to grow him it all started from there  
11:52 we were amateurs at drawing hemp when we  
11:54 were after amateurs are  
11:55 setting up cooperatives but we've  
11:57 learned that we're getting there

#### 1.9. VIDEO Edward Hanbridge farmer and board member of hemp Cooperative Ireland

12:00 i suppose i was one of the only farmers  
12:02 that had  
12:03 uh experience in growing them i started  
12:06 looking at him  
12:07 back in 2015.

#### 1.10. VIDEO Jack O' Connor board member and Hemp Cooperative Ireland

12:07 we have a lot of  
12:09 underutilised land  
12:11 in our area once upon a time dairy  
12:14 farming  
12:14 and beef farming was very productive the  
12:17 beef just aren't making any money  
12:18 anymore so we  
12:19 had to look at the alternatives recently  
12:22 hemp has come onto the radar

935 12:24 and we've looked around what i'm saying  
936 12:26 we started the community  
937 12:28 in this rural park where we have serious  
938 12:31 issues with depopulation  
939 12:32 and children moving to the orbit areas  
940 12:36 can hemp is a great solution for farmers  
941 12:40 what we're doing is promoting them as a  
942 12:43 rotational crop  
943 12:44 they get a valid crop which will more  
944 12:47 than compensate for the  
945 12:49 loss of animals it benefits the  
946 12:53 environment to such a huge extent way  
947 12:56 more than trees  
948 12:57 trees

#### 1.11. VIDEO Glynn Evans microbiologist and farmer

951 12:57 I put hemp in order to  
952 13:00 reduce the co2 impact that I was having  
953 13:03 hemp will take in approximately 10 tons  
954 13:05 to 15 tons of co2 per acre depending on  
955 13:07 the variety that you put in  
956 13:09 that's a huge reduction in co2 per acre  
957 13:12 so it's going to be a benefit to  
958 13:16 not only us but my kids

#### 1.12. Laura Jayne Foley farmer and board member of Hemp Cooperative Ireland

961 13:20 we live across the waterfront here in a  
962 13:22 place called loophead  
963 13:24 and um very similar conditions to Kate  
964 13:27 Carmody  
965 13:28 she's growing hemp and it's going really  
966 13:30 really well for her so once we knew we  
967 13:32 could grow well in west coast  
968 13:34 just continue to be researching it and  
969 13:35 it looks like a  
970 13:37 great practical and lots and lots of  
971 13:40 uses  
972 13:40 you know here's a plant that can help you  
973 13:43 live a natural quality of life because  
974 13:45 it can be your medicine  
975 13:47 it can feed your animals it can cloth  
976 13:50 you  
977 13:51 it can house you what what do you want  
978 13:54 I believe the future for hamp island  
979 13:57 is enormous  
980 13:58 provides opportunities for farmers for  
981 14:01 workers our  
982 14:02 processors let your imagination run wide  
983 14:05 and it's not from smoking  
984 14:10 chemicals a solution for all of Europe

14:13 if we change  
14:14 the legislation in Europe a lot of  
14:17 countries  
14:18 are very negative about him because they  
14:21 associate it with  
14:22 marijuana so there's a big education  
14:25 project to be done  
14:27 so when we started researching going  
14:29 ahead about two years ago we  
14:30 contacted the headquarters immediately  
14:33 it was a great support  
14:34 because it was an opportunity to teach  
14:37m each other what we were doing and learn  
14:38 from each other  
14:39 but also as the group has got larger and  
14:41 larger it  
14:42 gives us an opportunity to speak to our  
14:45 government and about the regulatory  
14:46 requirements and so it gives us a kind  
14:49 of i suppose power numbers  
14:51 we're all talking we're all  
14:52 communicating with each other which  
14:53 means then that we know  
14:55 which method works best which method  
14:57 didn't work  
14:58 it's only collective that more the more  
15:01 people that are in it the more  
15:02 information we're going to get  
15:03 it's not economically viable to do this  
15:06 on your own so the co-op  
15:07 offers that in licensing and in  
15:10 marketing  
15:11 and in advice and agronomy  
15:11 we have a  
15:14 good knowledge base that we have a bit  
15:17 of experience now between the different  
15:19 members  
15:20 and it's it's all going to be very  
15:22 beneficial going forward  
15:24 knowledge has been the big issue for the  
15:26 moment and learning  
15:27 in the next two years funding  
15:31 and the processing is going to become  
15:34 the  
15:34 bigger issue because we will know better  
15:36 work we want to do  
15:38 in terms of processing and then  
15:40 obviously the marketing of the product  
15:42 has to be done in tandem with that  
15:46 in the hemp cooperative two places the  
15:49 members are farmers  
15:51 but we have builders we have chemists  
15:53 doctors  
15:54 architects social activists people



990 15:58 who want solutions to the problem in  
991 16:01 society

992  
993  
994 **1.13. Declan Darcy hempcrete builder and board**  
995 **member of Hemp Cooperative Ireland**

996 16:03 I first got involved with him as I'm a  
997 16:06 carpenter by trade and a customer asked  
998 16:08 me to build a hempcrete  
999 16:10 extension to their house so I've done  
1000 16:13 some research  
1001 16:14 and discovered a wonderful building  
1002 16:16 material this is just  
1003 16:17 a simple mixture the shiv mixed with  
1004 16:20 live on water  
1005 16:22 and it packed into these wooden  
1006 16:26 cranes and it's just like you would with  
1007 16:30 a concrete wall  
1008 16:31 but you just pack it down so it becomes  
1009 16:34 a solid block  
1010 16:36 like this so this material will  
1011 16:39 create a good quality installation  
1012 16:42 that's a good one  
1013 16:43 you know for the installation for the  
1014 16:44 help of the people living in these  
1015 16:45 buildings  
1016 16:46 but for the help of the building itself  
1017 16:48 as well this is the blocks  
1018 16:50 we showed people how to make you could  
1019 16:52 imagine  
1020 16:53 an industry near an island producing  
1021 16:56 hemp creek blasts for people  
1022 16:58 when i discovered him i discovered  
1023 17:00 something passionate about it  
1024 17:02 you know finally i find something that  
1025 17:04 walks the top  
1026 17:06 the hemp cooperative was actually  
1027 17:08 registered in may  
1028 17:10 2018 and then several of us  
1029 17:13 registered it you know it all started  
1030 17:15 taking off  
1031 17:16 so we've gathered a lot of members most  
1032 17:19 of our members  
1033 17:20 are young farmers they want to farm they  
1034 17:23 don't want to be driven away from the  
1035 17:25 city  
1036 17:26 the young people are looking to do  
1037 17:28 something different  
1038 17:30 and see this as a very exciting crop  
1039 17:33 that offers lots of opportunities we do  
1040 17:36 it organically  
1041 17:37 and so it's regenerative farming and  
1042 17:40 young people  
1043  
1044

17:40 are interested in farming for nature  
17:44 I think we need to  
17:46 reinvent the paradigm of rural islands  
17:49 and just make it an exciting and vibrant  
17:52 place again  
17:53 and to me hemp will do that  
17:57 industrial hemp is a significant game  
17:59 changer  
18:00 in terms of not depopulating border  
18:04 i would call it a flagship project  
18:08 for the whole European union

**1.14. On Thursday 24 June 2021, FSAI held a Breakfast  
Bite event on 'the legal position of cannabis based  
food products like CBD oils in the EU Ireland'.  
This presentation was provided by Dr Pat  
O'Mahony, Chief Specialist, Food Science  
Technology,  
[https://www.FSAI.ie/faq/CBD\\_oils](https://www.FSAI.ie/faq/CBD_oils),  
<https://www.youtube.com/watch?v=dSHL4ug4zJI>**

02:40 the CBD and the hemp issue has been  
02:43 discussed at European level and even  
02:45 worldwide for the last six or seven  
02:47 years so  
03:08 have to go back and forth between THC  
03:11 and food law and CBD etc for those of  
03:14 for you who are not too familiar with the  
03:16 food safety authority we're a consumer  
03:18 protection body so we're a government  
03:19 agency  
03:21 our role is to look after the consumer  
03:23 basically  
03:24 and implement food law we don't have a  
03:27 policy remiss that's the job of  
03:29 our policy makers in the department of  
03:30 health and agriculture  
03:32 um and of course we're also a part of  
03:35 Ireland as part of the eu still and i  
03:36 make this point later  
03:38 because uh our nearest neighbours in the  
03:40 uk are not part of the UK and therefore  
03:42 they have  
03:43 deviated so much in how they deal with  
03:46 certain aspects of food well including  
03:48 CBD issues and  
03:51 so with dash i'm going to turn off my  
03:53 camera and i might just start the  
03:55 presentation  
03:56 as such  
04:05 okay so uh we're on slide number one  
04:08 here now so

1045 04:09 the first thing i want to make people  
1046 04:11 aware of and this  
1047 04:12 just comes out of necessity a lot of the  
1048 04:14 time we get  
1049 04:15 interactions with the food industry  
1050 04:17 people say i've seen this product and i  
1051 04:19 want to sell it i want to buy it and  
1052 04:21 sell it  
1053 04:21 onto my own brand or whatever well in  
1054 04:23 Ireland if you're a food business you  
1055 04:25 have to be registered with the  
1056 04:26 environmental health service  
1057 04:28 of the HSE that's a first a prerequisite  
1058 04:30 you can't  
1059 04:31 it can't be a food business otherwise uh  
1060 04:34 in Ireland also and i think this also  
1061 04:36 goes for  
1062 04:36 many member states if not all of them  
1063 04:39 supplements  
1064 04:40 must be notified to the food safety  
1065 04:42 authority before they're placed on the  
1066 04:43 market  
1067 04:44 now it's important to remember this is  
1068 04:46 not an authorisation  
1069 04:47 this is a notification as such and when  
1070 04:49 we get those notifications in  
1071 04:51 and we do get somewhere between two and  
1072 04:53 four thousand a year  
1073 04:54 we do check the labels we check that  
1074 04:56 they're not novel foods etc etc  
1075 04:58 so there is a bit of work  
1076 04:59 we do have an online system if you go to  
1077 05:01 the FSAI website you'll see an online  
1078 05:03 system where you can  
1079 05:04 notify your your supplements and  
1080 05:07 something which i'll touch on  
1081 05:09 again a few times novel foods must be  
1082 05:11 authorised before being placed on the EU  
1083 05:13 market  
1084 05:14 and we it's come to our attention on  
1085 05:17 more than one occasion that people are  
1086 05:19 putting foods on the market  
1087 05:20 especially in the CBD area that  
1088 05:23 shouldn't be on the market because their  
1089 05:24 novel foods  
1090 05:25 but i'll touch on that in more detail  
1091 05:27 later  
1092 05:28 you also need to be very wary of what  
1093 05:30 you put on  
1094 05:32 in terms of nutrition or health claims  
1095 05:33 there is specific legislation on this  
1096 05:36 and again you can't make claims in terms  
1097 05:39 of nutrition or health  
1098 05:40 without them being authorised at the EU  
1099

05:42 level this can make life awkward for  
05:44 companies who are not aware of it but uh  
05:46 this this is a good heads up now the  
05:49 next two lines are a bit of laziness in  
05:51 my part but  
05:52 it gets the message across a food is not  
05:54 a medicine and a medicine is not a food  
05:56 so if it's a food an Ireland the food  
05:58 safety authority  
05:59 with our official agencies in the HSE  
06:01 and others  
06:03 will be looking after and controlling it  
06:05 if it's a medicine  
06:07 our colleagues in the medicine side the  
06:08 health products regulatory authority  
06:10 will be looking after it  
06:12 uh you're never yet a food will never be  
06:14 a medicine and a medicine will never be  
06:16 a food  
06:16 so we sit with the HPRA on a regular  
06:20 basis so we  
06:21 are in contact very regularly especially  
06:23 in the area of supplements  
06:25 where either claims are made or a  
06:27 supplement is on the market that has  
06:28 medicinal  
06:29 characteristics and if it's a medicine  
06:31 then the HPRA look after  
06:33 if it's a food FSAI looks after it and  
06:36 one final point uh and this might look  
06:38 a bit facetious but it's a fact the UK  
06:42 has and probably will deviate somewhat  
06:44 from EU  
06:45 food law as time goes on the UK is now  
06:48 no longer a member of the EU  
06:50 they are our nearest neighbour and  
06:51 therefore we have to be cognisant of  
06:53 what's going on in that market  
06:55 all the while knowing that as an EU  
06:58 member we have to implement  
6:59 and enforce EU law and there will be and  
07:02 there are already  
07:03 some deviations if you want to find out  
07:07 more about CBD and CBD products in  
07:10 Ireland we have  
07:12 an faq frequently asked questions on our  
07:14 website  
07:15 we haven't updated this in a while  
07:17 because we haven't seen any nature but  
07:19 uh if there are  
07:20 questions that we feel are not addressed  
07:22 and if anybody  
07:23 in this audience wants to ask those  
07:25 questions then we can always

1100 07:27 update that  
1101 07:32 okay so um i'm not an expert on the  
1102 07:35 cannabis plant kind of a sativa there  
1103 07:37 are other  
1104 07:38 uh varieties cannabis indica etc but i  
1105 07:40 think for the most part  
1106 07:42 when we talk about hemp and products  
1107 07:44 it's cannabis sativa  
1108 07:45 uh so a few basic facts and and most of  
1109 07:48 you in the industry or  
1110 07:50 i suppose in the CBD sphere will know  
1111 07:52 this already  
1112 07:53 there's more than a hundred cannabinoids  
1113 07:55 that have been identified  
1114 07:56 the two major ones are THC or  
1115 07:59 tetrahydrocannabinol  
1116 08:01 and CBD but you know there's a hundred  
1117 08:03 plus more  
1118 08:04 and i think the research is ongoing  
1119 08:06 fairly  
1120 08:07 vigorously into these because they may  
1121 08:09 have properties that may be useful  
1122 08:11 in some form or other THC is  
1123 08:14 already well known it's a psychotropic  
1124 08:17 psychoactive as well i'm not  
1125 08:18 pretty sure are those terms  
1126 08:20 interchangeable as such but uh  
1127 08:22 psychotropic means it's mind altering so  
1128 08:25 uh if you are into recreational cannabis  
1129 08:27 this is the actual  
1130 08:29 component in the cannabis plant that  
1131 08:30 gives you the high  
1132 08:32 cannabidiol is one of the many other  
1133 08:34 cannabinoids in there and  
1134 08:36 while it is psychoactive in other words  
1135 08:38 it does have a receptor in the brain  
1136 08:40 and apparently it does have certain uh  
1137 08:42 characteristics that make it interact  
1138 08:44 with the brain  
1139 08:45 it's not psychotropic so it's not um  
1140 08:47 illegal as such  
1141 08:48 THC is a controlled substance in Ireland  
1142 08:52 and to be in possession or in control of  
1143 08:54 it uh one has to have a ministerial  
1144 08:55 license  
1145 08:56 i'll explain those later on something  
1146 08:59 that is always coming back to us uh  
1147 09:02 despite how many times we have to  
1148 09:04 as well as reiterate it the point two  
1149 09:06 percent tht  
1150 09:08 tolerance uh tolerance which applies to  
1151 09:10 the plants for  
1152 09:11 for cultivation and for import does not  
1153 09:14 apply to food  
1154

09:15 uh i'll mention that again lately but  
09:17 this information is put out there  
09:18 whether  
09:19 by accident or mischievously i'm not  
09:21 really sure which but  
09:23 to be sure that as far as we're aware  
09:25 there is nothing in food law that allows  
09:26 for a tolerance of THC so the point two  
09:29 percent  
09:30 which is often quoted uh does not apply  
09:32 to food  
09:33 and something that i'm sure some of you  
09:35 know already but cannabinoids may be  
09:37 found in other plants  
09:38 uh and i suppose maybe down the road it  
09:40 might be a way of  
09:42 avoiding the uh the issues that surround  
09:44 cannabis and THC etc  
09:46 we're also aware of synthetic  
09:48 cannabinoids and for example  
09:50 in the EU novel food system there are i  
09:52 think three or four  
09:54 synthetic CBD products um undergoing  
09:57 assessment  
09:58 for authorisation as novel foods  
10:02 so just to give a bit of background on  
10:04 the hemp  
10:05 food products in the Irish market um  
10:08 to be honest i've been dealing with  
10:10 novel foods for 21 years now and  
10:13 hemp and CBD was not an issue until  
10:16 probably 2016 when we initially started  
10:19 seeing interest  
10:21 uh it has been discussed uh in food  
10:24 terms among  
10:25 EU member states and the commission  
10:27 since about 2016  
10:28 and for a number of years it was being  
10:31 discussed  
10:32 by a few member states and we didn't  
10:34 really know what the issue was because  
10:35 we didn't realise that the product was  
10:37 going to become so popular  
10:40 it probably does coincide with medicinal  
10:42 interest  
10:43 and that's fine but uh medicine is not a  
10:46 food as such so  
10:47 we have to keep those separate in around  
10:51 2016 and 2017 we didn't notice  
10:54 um complaints from industry  
10:57 about industry and that was uh it's not  
11:00 new as such  
11:01 uh but we noticed the volume of  
11:03 complaints uh

1155 11:04 meant that there was something fishy  
1156 11:06 about all this now it is  
1157 11:08 a lucrative business uh these products  
1158 11:10 are not cheap um  
1159 11:11 but we had industry coming in to  
1160 11:13 complain about their competitors for  
1161 11:15 various reasons  
1162 11:17 uh there was some complaints by  
1163 11:18 consumers but not that many um to be  
1164 11:20 honest it was mainly uh industry  
1165 11:22 complaining about  
1166 11:23 competitors there was also some  
1167 11:25 international reports about  
1168 11:27 hemp products not containing the  
1169 11:28 declared amount of THC  
1170 11:30 or containing too much THC uh and if i  
1171 11:33 remember rightly one  
1172 11:34 program was by the bbc uh trust me i'm a  
1173 11:37 doctor of the name but if you  
1174 11:39 if you search on youtube i think you'll  
1175 11:41 probably still find that  
1176 11:43 so for for a number of years we knew  
1177 11:45 there was an issue with the market  
1178 11:47 which was growing rapidly we knew but we  
1179 11:50 couldn't really do a whole lot about it  
1180 11:51 because we didn't have an accredited lab  
1181 11:53 and our colleagues in the public and the  
1182 11:55 slav in dublin  
1183 11:56 which i'll shorten to depot they got  
1184 12:00 accreditation in august 2019 since that  
1185 12:03 they've done several  
1186 12:04 proficiency tests and a report was  
1187 12:08 published just last week of a ring trial  
1188 12:10 in which they participated so as far as  
1189 12:12 we're concerned  
1190 12:13 uh the public on this lab in dublin is  
1191 12:15 accredited and also has  
1192 12:16 successfully um completed proficiency  
1193 12:20 tests and ring trials so  
1194 12:22 the reason i highlight this is because a  
1195 12:24 lot of the time when we  
1196 12:25 get a new supplement that's been  
1197 12:27 notified and it's a CBD product  
1198 12:28 and we ask for a lab search just to show  
1199 12:32 that there's no THC  
1200 12:33 and that there's the right amount of CBD  
1201 12:37 more often than not get uh lab starts  
1202 12:40 from unaccredited labs and this is a  
1203 12:41 complex test  
1204 12:43 uh and if you don't have a assert from  
1205 12:46 an accredited lab then i'm afraid  
1206 12:47 it's not gonna be of much use so in 2019  
1207 12:52 once the dublin public analyst lab was  
1208 12:54 accredited we decided to do a survey of  
1209

12:56 the Irish market  
12:57 more or less to confirm what we already  
12:59 knew that it had got some way out of  
13:01 control  
13:02 uh products were being put on the market  
13:04 without uh authorisation as such  
13:06 uh and in some cases as we found out uh  
13:09 some of them were dangerous  
13:11 we published the results of that survey  
13:13 last year  
13:14 2020 early in the year just before  
13:16 Covid hit  
13:18 and these are the the bones of the  
13:20 results so most of their products were  
13:22 found to contain THC at some level  
13:25 but almost half of them contained a  
13:27 certain level of THC that have taken  
13:29 at the maximum permitted dose would  
13:32 exceed the acute reference dose  
13:34 of one microgram per kilogram body  
13:35 weight now short of going out and  
13:37 weighing everybody  
13:38 individually we put a level of 100  
13:41 kilogram for a person as a standard  
13:43 this is a generous level if you do  
13:45 toxicology studies or anything like that  
13:47 you pick a standard  
13:48 i think of 70 kilos but we wanted to  
13:50 make sure we avoided any arguments that  
13:52 uh we were a bit too conservative  
13:54 so 40 of those products were delivering  
13:57 or could deliver  
13:58 an amount of THC that according to the  
14:01 European food safety authority  
14:03 uh the safety could not be guaranteed  
14:04 those products were removed from the  
14:06 market  
14:06 uh immediately uh and of all the powers  
14:09 that the FSAI has  
14:11 if we identify a safety issue we can act  
14:14 pretty much immediately and then answer  
14:16 questions later  
14:18 34 of the samples were considered novel  
14:21 foods i would  
14:22 give more detail about novel foods and  
14:24 what they are but basically those  
14:25 products should not have been on the  
14:27 market  
14:28 um there has been considerable  
14:29 discussion at EU level about what is a  
14:31 novel food and what is not a novel food  
14:33 in these terms so that argument is well  
14:36 and truly  
14:37 worn out at the stage uh another

1210 14:39 surprising issue but i suppose  
1211 14:41 considering the complaints we were  
1212 14:42 getting initially  
1213 14:44 41 of the products contain CBD levels  
1214 14:47 which differ from the declared content  
1215 14:49 by greater than 50  
1216 14:51 now when you look at the results i'll  
1217 14:52 show you later the word fraud will  
1218 14:54 probably come into your mind  
1219 14:57 39 of the food supplements had not been  
1220 14:59 notified to FSAI so again  
1221 15:01 they shouldn't have been on the market  
1222 15:02 at all and 50  
1223 15:04 of the products we've we found were  
1224 15:06 making fairly spurious and in some cases  
1225 15:08 ridiculous strains lactose free  
1226 15:09 gluten-free  
1227 15:10 non-gmo THC free and and more because  
1228 15:13 they're  
1229 15:14 they're as well a lot of these products  
1230 15:16 are aimed at people with certain issues  
1231 15:18 whether they be psychological or  
1232 15:20 physical issues and they're trying to  
1233 15:22 blossom up these are marketing gimmicks  
1234 15:25 and we certainly don't tolerate that  
1235 15:26 kind of stuff there is legislation  
1236 15:29 out there to prohibit the use of  
1237 15:31 misleading claims  
1238 15:33 so putting these results in a more  
1239 15:35 succinct format and i suppose in a  
1240 15:37 context  
1241 15:38 i'll take the THC results first uh these  
1242 15:41 are some of the products that were taken  
1243 15:42 off the market  
1244 15:43 and on the left-hand column you'll see  
1245 15:45 the amount of THC  
1246 15:47 in milligrams of intake per day that  
1247 15:49 were over the  
1248 15:50 0.1 milli milligram threshold which we  
1249 15:54 set for ourselves with 100 kilo person  
1250 15:56 and as you can see the most of them are  
1251 15:58 well and well in excess of the 0.1  
1252 16:00 you know like one milligram there are  
1253 16:03 two there in yellow  
1254 16:04 which i will discuss in the next slide  
1255 16:07 and thereafter  
1256 16:08 but if you look over at the columns uh  
1257 16:10 all of these products and i think of all  
1258 16:12 the 38 products we surveyed  
1259 16:14 none of them had no issues there was  
1260 16:16 either they weren't notified of  
1261 16:18 supplements  
1262 16:18 they were novel foods or they had  
1263 16:20 spurious claims or the level of CBD and  
1264

16:23 there  
16:24 was problematic that it was inaccurate  
16:28 in terms of those two products that had  
16:30 the almost 2.5 milligrams  
16:33 of THC per day this is an extract from a  
16:36 publication by the German  
16:38 federal institute for risk assessment in  
16:40 2008 now  
16:42 for those of you who don't know the bfr  
16:44 they're a very highly  
16:45 respected reputable risk assessment body  
16:48 in Germany and when they say something  
16:50 is is dangerous then you can take it  
16:52 that it is dangerous  
16:54 so when they were looking at the  
16:56 exposure rates uh to THC  
16:58 in Germany uh they reckon that at  
17:01 greater than 2.5 milligrams per person  
17:04 per day  
17:05 the occurrence of pharmacological  
17:06 pharmacological effects must be expected  
17:09 as psychomotor effects may also be  
17:11 expected in this dose range consumption  
17:13 of hemp containing foods may also result  
17:16 in restrictions in a person's ability to  
17:18 drive or operate a dangerous piece of  
17:21 machinery  
17:22 what this says to anybody who really  
17:24 reads this is that the products that we  
17:26 highlighted in the last slide that were  
17:27 up  
17:27 at around 2.5 milligrams uh people were  
17:30 taking that product should not be  
17:32 driving should not be operating  
17:33 machinery  
17:34 uh and even more so as i'll explain  
17:36 later on  
17:38 just to skip quickly through to the  
17:40 national legislation in Ireland we have  
17:42 the misuse of drugs act  
17:44 of 1970s as amended  
17:47 uh as per that act THC is a controlled  
17:50 substance there is no threshold  
17:52 and therefore uh to have control or  
17:54 possession of that substance  
17:56 uh is a breach of of that act  
17:59 unless you have a ministerial license  
18:02 it's not part of food law and therefore  
18:03 it's not within the FSAI  
18:05 arena to act on the basis of that uh now  
18:08 what it does mean is that if you take a  
18:09 product with THC energy even at low  
18:11 levels you are  
18:12 putting yourself in risk at risk of



1265 18:15 being uh  
1266 18:15 failing a drug test at a road safety uh  
1267 18:18 checkpoint  
1268 18:19 uh professionals like airline pilot  
1269 18:21 pilots uh  
1270 18:22 bus drivers etc could be tested positive  
1271 18:26 and therefore risk their professional  
1272 18:27 careers and of course if you're an elite  
1273 18:30 or a professional athlete you also put  
1274 18:31 yourself in danger of failing a drug  
1275 18:34 test  
1276 18:35 and if you don't believe that from us  
1277 18:37 you can look at the sport Ireland  
1278 18:39 website and at the very bottom there it  
1279 18:42 does explain that CBD  
1280 18:44 products pose a risk to athletes and  
1281 18:46 athletes use  
1282 18:47 CBD products at their own risk now it  
1283 18:50 might not surprise you just to note that  
1284 18:51 there are certain  
1285 18:53 athletes shall we say in professional  
1286 18:54 circles that are promoting these  
1287 18:56 products  
1288 18:57 even though anyone who takes it and is  
1289 18:59 in the professional  
1290 19:00 level does risk being banned for certain  
1291 19:03 periods of time or whatever  
1292 19:05 that's not a food safety issue that's a  
1293 19:07 different issue but it's worth  
1294 19:08 highlighting i think  
1295 19:11 now moving on to the CBD aspects of the  
1296 19:13 survey we found  
1297 19:15 a lot of problems again and they're all  
1298 19:16 put in context here  
1299 19:18 i suppose the big thing uh that did  
1300 19:20 surprise us that when we looked  
1301 19:22 using a credited lab and an accredited  
1302 19:24 method we found that  
1303 19:26 products ranged in levels of CBD  
1304 19:29 compared to the declared amount  
1305 19:31 all the ways from zero up to 180 percent  
1306 19:35 now there is an old saying in Ireland  
1307 19:37 that if there's good and a little  
1308 19:38 there's good in the lush well  
1309 19:39 at the moment there is no safe upper  
1310 19:41 limit established for CBD  
1311 19:44 uh and so we we weren't able to take any  
1312 19:46 action on the basis of  
1313 19:47 you know over uh excessive amounts of  
1314 19:50 CBD that might  
1315 19:52 change in the future when FSAI do come up  
1316 19:54 with an upper safe level limit but at  
1317 19:56 the moment we don't have dash  
1318 19:58 what does stand out here is that there  
1319

19:59 are products on the market that have  
20:00 pretty much  
20:01 zero or very low levels of CBD in them  
20:04 even though they declare  
20:05 certain milligrams um now  
20:08 as well as that if you look across the  
20:10 the columns you'll see that  
20:11 all these products have different issues  
20:13 as well they're novel foods  
20:15 uh they're not notified as supplements  
20:17 and they have all these spurious claims  
20:19 on there so i'm going to talk about  
20:22 novel foods because i know  
20:23 even though we've been at it for a long  
20:25 time and it's it's second  
20:27 nature to us a lot of people won't be  
20:29 aware of what a novel food is  
20:31 another food is actually you'll find it  
20:33 in canada australia new zealand  
20:34 and europe as well so basically a food  
20:37 or a food ingredient  
20:38 that has not been used for human  
20:40 consumption to a significant degree in  
20:42 the eu prior to may 15  
20:44 1997 is another food and it must be  
20:47 authorized before being placed on the  
20:49 market  
20:50 we have another food working group uh in  
20:53 brussels  
20:54 and ourselves myself christina and  
20:57 colleagues from all over  
20:59 the other member states sit there and we  
21:00 trash out  
21:02 details like is this a novel food is  
21:04 that a novel food  
21:05 and we more or less all the time agree  
21:07 not all the time but most of the time  
21:09 agree  
21:09 not all the time now the one thing i  
21:12 have in big  
21:12 red letters here as you can see a novel  
21:15 food cannot be placed on the eu market  
21:17 until authorized and present in the  
21:19 union list of novel foods  
21:21 the reason i put that in such bold  
21:24 letters here is because  
21:26 i think people in Ireland and probably  
21:28 other member states as well are being  
21:29 told  
21:30 by suppliers of these products i have  
21:32 another food application in  
21:34 and therefore i'm allowed to put that on  
21:35 the market if you read article 6.2 of  
21:38 the novel food regulation

1320 21:40 it will tell you that you cannot place a  
1321 21:41 novel food on the market  
1322 21:43 unless it's authorized and in the union  
1323 21:45 list so  
1324 21:46 we're fairly sure that people are being  
1325 21:48 cunned and and duped  
1326 21:50 by suppliers who just want to make money  
1327 21:51 and they're we're coming along then as a  
1328 21:54 regulatory authority and taking these  
1329 21:56 products off the market and the people  
1330 21:57 who  
1331 21:58 buy them are important are at a loss  
1332 22:00 financial loss  
1333 22:02 if you want to know all the details  
1334 22:03 about the European  
1335 22:05 novel food regulation the commission  
1336 22:07 website at the bottom is a very useful  
1337 22:09 source and i think there's nothing in  
1338 22:11 there that can't be answered on that  
1339 22:13 website  
1340 22:14 i'm not dealing with THC in terms of  
1341 22:16 novel food because THC is not a food  
1342 22:19 as i'll explain later as part of the  
1343 22:22 novel food  
1344 22:23 uh way back in the early 2000s  
1345 22:26 member states on the commission set up  
1346 22:27 what we call the novel food catalog  
1347 22:29 and the reason for this was we were  
1348 22:31 getting lots of questions  
1349 22:32 and then after a year or two the same  
1350 22:34 questions would come back and  
1351 22:36 of course people change in the  
1352 22:37 commission and people change in the  
1353 22:39 member states and in some cases uh  
1354 22:41 different answers were being given out  
1355 22:43 for the same products  
1356 22:44 so we decided to set up the novel food  
1357 22:46 catalogue it's a non-binding  
1358 22:48 non-legal i suppose just a source of  
1359 22:52 information on the discussions a record  
1360 22:54 of the discussions we've had at that  
1361 22:56 level  
1362 22:57 if something is deemed a novel food in  
1363 22:58 here it can be reversed  
1364 23:00 to a nut novel food if somebody can come  
1365 23:02 up with evidence of a history  
1366 23:03 consumption  
1367 23:04 before 1997. now the unfortunate thing  
1368 23:07 is 1997 is 24 years ago at this stage  
1369 23:10 last century so  
1370 23:11 it's becoming more difficult uh the  
1371 23:13 further away we get from it but still  
1372 23:15 that's the  
1373 23:16 the policy makers decision 1997 is  
1374

23:19 the actual time from which this  
23:21 regulation  
23:23 takes effect now when it comes to  
23:25 cannabis  
23:26 uh you know i've looked through the  
23:27 records and there was a mention in 2002  
23:30 but in 2009 we did discuss it  
23:33 and we were able to decide at that stage  
23:36 member states and the commission  
23:38 that cannabis is probably not our novel  
23:40 food and that's written there in  
23:41 the red lines without prejudice to other  
23:44 legal requirements concerning the  
23:45 consumption of hemp  
23:47 cannabis sativa and hemp products  
23:50 regulation  
23:51 25897 which was the original novel food  
23:53 regulation  
23:54 is not applicable to most food and food  
23:56 ingredients from this plant  
23:58 now at the moment that is a different  
24:02 interpretation to what many other member  
24:04 states would think so we in Ireland  
24:06 believe that hemp and hemp products that  
24:09 are used as foods are not novel foods  
24:11 unless you want to start refining and  
24:14 concentrating and purifying  
24:16 other member states don't believe that  
24:18 so i think all other  
24:19 most other member states consider any  
24:22 product from the cannabis plant  
24:24 as either a medicine a narcotic or a  
24:27 novel food  
24:28 as far as i'm aware in Ireland is  
24:29 probably one of the few  
24:31 member states that allow some products  
24:32 on the market but it's not all products  
24:34 and i  
24:35 want to explain the novel food catalog  
24:39 now  
24:39 and the website forex below has been  
24:41 refined some watch  
24:42 and the only part of the cannabis plant  
24:45 where there's unanimous  
24:46 agreement that is not a novel food is  
24:48 the hemp seed  
24:49 hemp seed oil hemp seed flour etc now if  
24:53 you start  
24:54 processing those products and refining  
24:56 them  
24:57 and extracting and whatnot other  
24:59 components then you can  
25:00 make yourself you can make that product  
25:02 a double food

1375 25:04 i have highlighted the point two percent  
1376 25:06 there again um  
1377 25:07 we removed that from our faq because  
1378 25:10 people kept  
1379 25:11 misinterpreting it as meaning it's  
1380 25:13 applicable to food it's not applicable  
1381 25:15 to food even though it's on the  
1382 25:17 it's very well spilled out there now in  
1383 25:19 the novel food catalog  
1384 25:20 it applies only to the cultivation and  
1385 25:22 the import of plants  
1386 25:25 when you grow the cannabinoids on the  
1387 25:27 novel food catalog it's fairly clear  
1388 25:29 what i just mentioned that  
1389 25:30 if you have an extract of cannabis the  
1390 25:33 derived products containing  
1391 25:35 cannabinoids are considered novel foods  
1392 25:37 because the history of consumption has  
1393 25:39 not been demonstrated now we've had two  
1394 25:41 working groups at least  
1395 25:43 where we had the industry present and  
1396 25:44 they were asked to present their  
1397 25:46 evidence  
1398 25:47 for a history consumption they failed to  
1399 25:49 convince any member states or the  
1400 25:50 commission  
1401 25:51 and so novel foods hemp products that  
1402 25:54 have been purified concentrated etc are  
1403 25:57 novel foods and until evidence to the  
1404 25:59 contrary  
1405 26:00 uh comes to us and is evaluated  
1406 26:03 and that's the way it stands so this  
1407 26:06 this novel foods status applies to the  
1408 26:08 extracts themselves  
1409 26:10 purified CBD in other words and any  
1410 26:13 products to which they're added so  
1411 26:14 we're aware of products like hemp seed  
1412 26:16 oil  
1413 26:18 that obviously have CBD concentrated CBD  
1414 26:21 added to it that becomes a novel food  
1415 26:23 hemp seed oil obviously in itself is not  
1416 26:25 another food  
1417 26:27 so when you add concentrated CBD or you  
1418 26:30 know another food as such  
1419 26:31 it too becomes another food uh also in  
1420 26:34 here it explains that other plants  
1421 26:36 do actually contain cannabinoids so if  
1422 26:38 and when  
1423 26:39 the industry decides to go that route  
1424 26:42 they will also be considered novel foods  
1425 26:43 and  
1426 26:43 have to be authorised again it qualifies  
1427 26:46 in here that's synthetically obtained  
1428 26:48 cannabinoids are novel  
1429

26:50 and require authorisation as well  
26:54 so i'm going to go a bit outside now  
26:57 again um  
26:58 and go to general food well um  
27:01 in general food law article 2 defines  
27:03 food which  
27:04 most in most European food law uh there  
27:06 is definitions  
27:07 uh provided just to make sure everyone  
27:10 knows what they're talking about  
27:11 but in general food law they also talk  
27:13 about what is not a food or what is not  
27:15 included  
27:17 under the definition of a food this  
27:19 includes animal feed  
27:20 live animals plants prior to harvesting  
27:23 medicinal products  
27:24 cosmetics tobacco and pointing down there  
27:27 that have highlighted  
27:28 narcotic or psychotropic substances  
27:30 within the meaning of  
27:31 the united nations single convention on  
27:33 narcotic drugs  
27:35 1961 and the u.n convention on  
27:38 psychotropic substances  
27:39 1971. so just to clear up matters fairly  
27:42 quickly  
27:43 THC is listed in the  
27:46 1971 u.n convention on psychotropic  
27:49 substances therefore THC  
27:51 is not a food it can't be considered a  
27:52 food now initially when i  
27:55 read that i was of the opinion it can't  
27:56 be in food but of course  
27:58 it's a contaminant and there are many  
28:00 contaminants in food so it's not  
28:01 specifically  
28:02 prohibited in food it's just that it's a  
28:04 contaminant in this case there is no  
28:06 upper  
28:06 limit allowed so it's just one of these  
28:09 anomalies but i think there is  
28:11 there are moves at EU level to address  
28:14 that  
28:15 what i'm going to do next is talk about  
28:17 what it means for cannabis  
28:19 in terms of the 1961 u.n convention  
28:23 and in that convention it says cannabis  
28:26 means the flowering are flowering cups of  
28:28 the cannabis plant  
28:29 and there's other texts in there as well  
28:32 what this means and i can  
28:33 apply this directly to some products we  
28:35 see on the market

1430 28:36 CBDt for example in some cases  
1431 28:40 these whole flowers are buds of the hemp  
1432 28:43 plant  
1433 28:43 cannabis plant because of the urine  
1434 28:46 convention because of general food law  
1435 28:48 these are illegal because they're  
1436 28:49 narcotic it doesn't matter if there's  
1437 28:51 little or no CBD or THC in there 28:54 it's a fairly  
1438 black and white  
1439 28:55 interpretation of what is food law  
1440 28:58 and i think this hopefully will clear up  
1441 29:00 that  
1442 29:01 uh aspect of it because there are some  
1443 29:02 of these products being sold as food  
1444 29:04 when that's not  
1445 29:05 uh legally possible  
1446 29:08 now there was a European court of  
1447 29:10 justice ruling  
1448 29:12 late last year in 2020 and it did  
1449 29:14 clarify a number of matters  
1450 29:16 it was a ruling on a vaping product that  
1451 29:19 was sold in one member state  
1452 29:21 and prohibited in another member states  
1453 29:24 so it had no impact on food or such  
1454 29:27 there's no mention of food in the actual  
1455 29:29 ruling  
1456 29:30 but what it did clarify and it helped us  
1457 29:32 in the Irish situation  
1458 29:33 the Irish context it says in there  
1459 29:36 just because it comes from the flower  
1460 29:39 CBD is not  
1461 29:40 a narcotic growth so in other words if  
1462 29:42 one extracts the oil from the whole  
1463 29:44 plant including the flower  
1464 29:47 one could interpret that use of the  
1465 29:49 flower is the narcotic drug and  
1466 29:50 therefore shouldn't be allowed  
1467 29:52 you get the core court rule that just  
1468 29:53 because it's from the flower  
1469 29:55 or includes the flower um it doesn't  
1470 29:58 make it a drug so  
1471 29:59 that that cleared it up for us really  
1472 30:01 and hopefully uh for other people as  
1473 30:03 well  
1474 30:04 the ruling also made a few other  
1475 30:06 interesting statements  
1476 30:07 contrary to the arguments sometimes put  
1477 30:10 forward by establishments offering  
1478 30:12 cannabiod  
1479 30:13 based products for sale the authorised  
1480 30:16 delta 9 THC content of 0.2  
1481 30:19 applies to the cannabis plant and not to  
1482 30:22 the finished product  
1483 30:23 resulting from it now we can show you  
1484

30:26 you know  
30:26 lots of bits of legislation etc uh where  
30:28 we can  
30:29 demonstrate that the point two percent  
30:31 only applies to the plant  
30:33 this is a ruling from the European court  
30:35 of justice and it puts it in fairly  
30:36 black and white  
30:37 the point two percent uh THC only  
30:40 applies to  
30:41 it does not apply to food it only  
30:43 applies to cultivation and  
30:44 import another interesting point they  
30:47 clarify it should be noted that  
30:48 CBD is found mainly in the leaves and  
30:51 flowers of the plant  
30:52 and not in the fibres and seeds now i  
30:55 can show you many  
30:56 peer-reviewed scientific publications  
30:58 that will tell you that  
31:00 hemp seeds do not produce or contain  
31:02 cannabinoids including CBD  
31:04 rtac it can be certain levels of those  
31:07 cannabinoids  
31:08 in seeds and seed derived products  
31:10 purely from contamination  
31:12 by surrounding plant material but at the  
31:14 end of the day hemp seed  
31:15 and hemp seed oil can only contain low  
31:17 levels of CBD  
31:19 and it's probably from contamination  
31:21 from surrounding plant material  
31:24 this is a problem because we see many  
31:26 products on the market  
31:28 made from hemp seed hemp seed oil for  
31:30 example and they have glorious amounts  
31:32 of CBD in there  
31:34 that's a problem somewhere along the  
31:35 line CBD is being added in there  
31:38 probably the concentration and if that's  
31:40 the case then that product is a novel  
31:41 food  
31:42 and should be authorised so just to  
31:45 finish i think it would be  
31:46 remiss of me to um not mention  
31:49 the problem that's come to light in  
31:51 recent months and to be honest this is  
31:53 not  
31:53 really an issue for the audience here  
31:56 because i think we're dealing with  
31:57 people who are not  
31:58 drug traffickers or not drug dealers but  
32:01 i thought it was worthwhile mentioning  
32:02 because uh it is an issue in Ireland

1485 32:05 since as well as far as where we're  
1486 32:06 early this year but it may have been  
1487 32:08 going on before this  
1488 32:10 and this is the problem of uh drug  
1489 32:12 trafficking basically through the the  
1490 32:14 the avenue of sweets and children's  
1491 32:16 products  
1492 32:17 and there have been a number of  
1493 32:18 casualties in Ireland thankfully as yet  
1494 32:21 nobody has died  
1495 32:22 but uh any chance we guess would you  
1496 32:24 urge people to be aware  
1497 32:26 if you have younger siblings if you have  
1498 32:28 nephews nieces sons or daughters  
1499 32:30 apparently these are rampant in schools  
1500 32:32 and of course it's all  
1501 32:34 fun and games until somebody gets hurt  
1502 32:36 or dies  
1503 32:37 there's serious amounts of THC in these  
1504 32:39 products  
1505 32:40 and we're not yet sure how they're being  
1506 32:43 produced or where they're coming from  
1507 32:45 uh but it's something we're alerting  
1508 32:46 people as often as we can  
1509 32:48 so um it also doesn't help the hemp  
1510 32:50 industry in Ireland or other places  
1511 32:52 because  
1512 32:52 already hemp and cannabis products which  
1513 32:56 are used as foods have that association  
1514 32:58 with uh i suppose  
1515 32:59 recreational marijuana and stuff and  
1516 33:02 it's not helpful and this  
1517 33:03 doesn't actually help that case so i  
1518 33:05 think everyone will  
1519 33:06 agree that we need to get that  
1520 33:09 problem sorted for all our benefits at  
1521 33:12 the moment  
1522 33:13 we are working on that problem but also  
1523 33:14 with the CBD uh  
1524 33:16 issue and we have an issue in the  
1525 33:17 country uh with our colleagues in the  
1526 33:20 HSE the environmental health officers  
1527 33:22 uh the HPRA which is the the medicines  
1528 33:24 regulatory authority  
1529 33:26 uh the state laboratory are now on board  
1530 33:29 in terms of testing as  
1531 33:30 are we are also consulting with forensic  
1532 33:33 science Ireland  
1533 33:34 and then of course we do work with our  
1534 33:36 colleagues in the police force in  
1535 33:37 Germany and customs as well  
1536 33:39 because a lot of the products that are  
1537 33:41 on the market are coming in through our  
1538 33:42 ports  
1539

33:43 and um you know all working together  
33:47 we will be able to start this problem  
33:48 and one final thing i suppose  
33:50 people there have been complaints that  
33:53 uh  
33:53 in in one respect the FSAI don't take uh  
33:56 action on a product where they find THC  
33:59 unless there's a safety issue and that's  
34:01 that's how we operate  
34:02 but the guardi can go in and take a  
34:04 product off the shelf and if there's any  
34:06 level  
34:06 any trace of THC in there they can  
34:09 prosecute under the misuse of project  
34:11 so that's just a fact of life and the  
34:13 legislation will have to change somehow  
34:15 if that's going to change but um you  
34:17 know it's  
34:18 a concern and a complaint we hear a lot  
34:20 but these  
34:21 are things outside of our arena at the  
34:23 moment  
34:24 so with that i think i've gone over my  
34:27 time a little and  
34:28 back to you emma and we'll try and  
34:30 answer any questions  
34:32 you have  
34:35 great thanks very much part for a super  
34:37 talk on the legal position of  
34:39 cannabis-based foods  
34:40 lots of really important information in  
34:42 there so we've some really good  
34:44 questions coming in here now and i'll  
34:46 pick out a few we've actually lots of  
34:47 questions  
34:48 if we don't get to answer your question  
34:50 please email info  
34:51 FSAI dot ie and we'll get back to you so  
34:54 the first one pat and for testing hemp  
34:58 based products what are the licenses  
35:00 required for food testing labs  
35:05 we don't talk in terms of licensing  
35:07 anybody can set up a lab as far as i'm  
35:08 aware but  
35:10 if we're seeing new products coming on  
35:11 the market  
35:13 and because of our experience with some  
35:15 labs that are not accredited  
35:16 uh whose results vary considerably with  
35:19 the results we get from the accredited  
35:21 public analyst lab in dublin and so and  
35:24 hopefully the state lab as well  
35:26 uh if you're to have any chance of you  
35:28 know validating your product



1540 35:30 uh based on results the results need to  
1541 35:32 come from an accredited lab  
1542 35:35 okay great thanks pat and on to the next  
1543 35:39 question  
1544 35:40 um adults can easily get cannabis  
1545 35:42 edibles in Ireland  
1546 35:43 would it not be in the public's interest  
1547 35:45 for the FSAI to call for the regulation  
1548 35:47 of these products to better protect  
1549 35:48 consumers  
1550 35:49 and prevent kids accessing them so  
1551 35:51 easily  
1552 35:53 uh the cannabis edibles i'll take it  
1553 35:55 they mean the THC sweets  
1554 35:57 that's already regulated these products  
1555 35:59 are illegal uh the amount of THC in  
1556 36:01 there  
1557 36:02 is not our business except for the fact  
1558 36:04 that they're in foods  
1559 36:05 and that's where we become involved i  
1560 36:07 mean the guardi and the customs  
1561 36:09 are on a daily workload  
1562 36:12 with drugs all around the place this is  
1563 36:13 just another avenue of drug trafficking  
1564 36:15 and drug dealing and the only reason  
1565 36:17 we're involved is because  
1566 36:18 they're coming in through food so  
1567 36:20 they're illegal already we don't need  
1568 36:21 any more legislation um  
1569 36:23 we're concerned because of the safety  
1570 36:24 aspects especially with unwitting  
1571 36:26 children who  
1572 36:27 just like sweets so it's already  
1573 36:30 regulated from  
1574 36:32 okay thanks pat on to the third question  
1575 36:35 does the FSAI expect companies to comply  
1576 36:38 with any THC maximum  
1577 36:40 limit at all or would the 0.2 plant  
1578 36:42 level be the only thing  
1579 36:44 checked again i  
1580 36:47 i mustn't have made it clear enough that  
1581 36:49 0.2 has nothing to do with food  
1582 36:51 there is no tolerance level in European  
1583 36:53 or Irish food law  
1584 36:54 for THC it's a contaminant and as yet  
1585 36:57 there is no  
1586 36:58 established upper limit so what we do as  
1587 37:01 a food safety authority we look at the  
1588 37:02 safety aspects  
1589 37:04 we use the European food safety  
1590 37:06 authority  
1591 37:07 acute reference dose and we calculate  
1592 37:09 that  
1593 37:10 if you're ingesting or if you're allowed  
1594

37:13 with the maximum permitted dose if  
37:14 you're going to exceed that  
37:16 then we perceive that as a safety threat  
37:17 and we remove those products from the  
37:19 market  
37:19 so the 0.2 doesn't work in any facet of  
37:23 food law  
37:25 okay thanks for clarifying that pat and  
37:27 on to the next one can you advise how  
37:29 the FSAI is going to address the number  
37:32 of unregistered products  
37:34 60 as per your presentation on Irish  
37:36 shell  
37:37 yeah and there is there is a serious  
37:39 problem uh on the Irish market at the  
37:41 moment which we are  
37:42 working behind the scenes favorably to  
37:44 get uh all our ducks in a row as such  
37:47 uh unfortunately when we publish the  
37:49 results of that report in 2020  
37:51 Covid came along uh it's sidelined us  
37:54 out of our offices and we're still  
37:55 out of there as you can see it sidelined  
37:58 a lot of the official agencies  
38:00 including the HSE who would be the  
38:01 front line officers  
38:03 now again with the cyber attack on the  
38:05 HSE  
38:06 uh in recent times that really hasn't  
38:08 helped us either  
38:09 uh and some people consider that's just  
38:11 an excuse but that's just the facts in  
38:13 life  
38:13 things are more difficult when you're  
38:15 working remotely but having said that  
38:18 we have been working behind the scenes  
38:20 we have identified  
38:21 a number of products and we're talking  
38:23 more than 30 that shouldn't be on the  
38:25 Irish market they're coming from outside  
38:26 of Ireland  
38:27 and these are not the THC sweets now  
38:29 these are CBD products  
38:30 that are unauthorised novel foods we've  
38:34 had a few discussions with some in the  
38:35 industry  
38:36 uh we didn't get a very positive  
38:37 response pretty much we were told  
38:40 there's  
38:40 money to be made here and we're not uh  
38:42 we're not complying because others will  
38:44 make money while we're not on the market  
38:46 that's not acceptable in our books so  
38:48 we're working with the

1595 38:49 HSE at the moment we have a list put  
1596 38:52 together  
1597 38:52 and we're working on the the legalities  
1598 38:55 of how we shall proceed so  
1599 38:57 we're also working with colleagues at  
1600 39:00 the border posts  
1601 39:01 so that any products coming in that  
1602 39:02 shouldn't be on the market will be  
1603 39:03 stopped  
1604 39:04 there as well so we are working and  
1605 39:06 hopefully in the coming months  
1606 39:08 we'll see some of these products being  
1607 39:09 removed  
1608 39:12 that's great thanks for explaining that  
1609 39:13 pat and the next one  
1610 39:16 could you please give more details into  
1611 39:18 what ingredient from hemp the FSAI  
1612 39:20 doesn't consider a novel food  
1613 39:24 well i suppose as the novel food  
1614 39:26 catalog from 2009 states  
1615 39:28 any food or ingredient from the hemp  
1616 39:31 plant  
1617 39:32 is probably not novel now hemp can only  
1618 39:35 be cultivated  
1619 39:36 if it has a certain level of THC 0.2  
1620 39:39 so we don't believe that any of the  
1621 39:41 products from a hemp plant that's  
1622 39:43 legally cultivated will  
1623 39:45 pose a safety threat in terms of THC  
1624 39:48 the problem arises when you start trying  
1625 39:51 to extract  
1626 39:52 desirable components like CBD purifying  
1627 39:55 concentrating etc etc so if you just  
1628 39:58 for example use cold press and squeeze  
1629 40:00 the oil out of the plant material  
1630 40:02 whether it's the  
1631 40:02 seeds or the the whole plant we don't  
1632 40:05 consider that novel  
1633 40:06 other member states do and we  
1634 40:09 acknowledge that  
1635 40:10 and we it's their prerogative uh we  
1636 40:12 don't  
1637 40:14 okay thanks for going into detail on  
1638 40:16 that pot and we just have time for a  
1639 40:18 couple more questions  
1640 40:20 um before we run over so and i'll just  
1641 40:23 do two more  
1642 40:24 so the next one cannabis was used for  
1643 40:26 thousands of years  
1644 40:27 by humans and only because of  
1645 40:29 prohibition is the novel food applicable  
1646 40:31 cannabis was used in the EU illegally  
1647 40:33 long before in 1997  
1648 40:35 so should it not qualify for the  
1649

40:36 exemption  
40:39 i suppose the only answer i can give to  
40:41 that is i sat in two meetings of the  
40:43 novel food working group in brussels all  
40:46 twenty  
40:47 eight member states were there at this  
40:49 age the industry was represented the  
40:52 European industry the UK industry  
40:54 uh and they failed on two occasions to  
40:56 convince  
40:57 the commission and the member states  
40:58 that there was a history of  
41:00 food consumption of hemp products in the  
41:03 European union before 97 so  
41:06 i think that argument has been trashed  
41:08 out and  
41:09 if somebody has more evidence then  
41:11 that's fine they can come forward with  
41:12 it and it might change the whole lot  
41:14 the real issue for us is the  
41:16 concentrates are the  
41:17 derived products we're not too  
41:19 interested in the actual whole plant  
41:21 extracts or the plant itself  
41:23 other member states have issues there so  
41:25 i suppose you would have to  
41:26 address that question to those member  
41:28 states who prohibit any form of the hemp  
41:30 plant as a food in their jurisdictions  
41:34 great thanks pat and finally on to the  
41:37 last question  
41:38 so CBDt is not legal  
41:42 i suppose that might be a little bit of  
41:44 a stretch CBDt  
41:45 that includes only the flowers or the  
41:48 buds  
**41:48 is not legal because it's a narcotic i**  
41:51 do see  
41:52 uh on a few occasions other CBD teas  
41:55 that are just  
41:55 leaf material now whether they contain  
41:57 flowers or not  
41:58 you know it really is probably too much  
42:01 work to go and try and look at that but  
42:03 when we see sachets or jars containing  
42:05 the buds  
42:06 the flowers and nothing else that's  
42:09 black and white illegal as far as we're  
42:11 concerned and it's not that there's a  
42:12 safety issue  
42:13 it's just a legal issue they're they're  
42:15 defined in the  
42:16 1961 u.n convention and that is linked  
42:19 to general food law which defines what

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1650 42:22 is not a food  
1651  
1652  
1653 **1.15. Teagasc Business Options Webinar, Barry Caslin**  
1654 00:08 webinar today's topic is an industrial  
1655 00:11 hemp and its uses within Irish  
1656 00:13 agriculture  
1657 00:14 now cannabis sativa or hemp it's one of  
1658 00:16 the oldest plants  
1659 00:17 cultivated by man with archaeological  
1660 00:19 evidence  
1661 00:20 shown that the plant was cultivated as  
1662 00:22 far back as 8000 bc  
1663 00:25 hemp can be found in all corners of the  
1664 00:26 globe from china  
1665 00:28 to the Americas although it's not native  
1666 00:30 to Ireland it has been growing here for  
1667 00:32 over 1 000 years  
1668 00:34 it's a very multifaceted crop and you're  
1669 00:36 probably wondering about all the  
1670 00:37 different uses that can be made of this  
1671 00:39 crop  
1672 00:39 it can be used for seeds it's fibres  
1673 00:43 its shivs its leaf and its root and  
1674 00:46 depending on the method of harvesting an  
1675 00:47 individual plant  
1676 00:48 can provide raw material for several  
1677 00:50 induces  
1678 00:52 which can provide farmers with several  
1679 00:53 income streams from the same plant  
1680 00:56 the fibre is used today for paper pulp  
1681 00:58 insulation  
1682 00:59 and building material and there's a  
1683 01:01 composite material in the automotive  
1684 01:03 industry  
1685 01:04 the shivs which is the woody inner core  
1686 01:06 of the stem of the hemp  
1687 01:07 that can be used for animal bedding and  
1688 01:09 construction and hemp seed and the hemp  
1689 01:11 seed oil they have high nutritional  
1690 01:13 value  
1691 01:14 and in more recent times CBD or  
1692 01:16 cannabidiol  
1693 01:18 has really had this major surge of  
1694 01:20 interest and has created a massive  
1695 01:21 frenzy  
1696 01:23 around this crop in the last number of  
1697 01:25 years  
1698 01:26 so just to discuss the crop and the  
1699 01:28 whole area of  
1700 01:29 industrial hemp and the opportunities  
1701 01:31 that may exist in the future  
1702 01:33 i'm joined by an expert panel of a  
1703  
1704

01:34 growing practitioner alan jackson  
01:37 an industry specialist killian mcgrath  
01:39 from remedy health  
01:40 i remember Ireland and a senior engineer  
01:43 and academic from technical university  
01:45 dublin liam dunham  
01:46 so you're all very welcome this evening  
01:48 and are all very welcome this morning  
01:50 and thanks for joining us so you can all  
01:53 turn on your microphones there now at  
01:54 the moment  
01:55 and uh what we're going to do is we're  
01:57 going to have a  
01:58 a short talk from each of the uh  
02:01 panellists  
02:03 starting up with Liam Donahoe Liam is a  
02:05 building energy engineer with more than  
02:07 17 years experience in application of  
02:10 building physics principles  
02:11 sales product design business  
02:13 development management  
02:14 mode ling design and specification of  
02:16 building envelope  
02:18 and certification of low energy  
02:19 buildings he's worked at all levels of  
02:21 the industry  
02:22 from fibre insulation BER assessment  
02:25 uh consulting a heat pump technician  
02:28 and he's lecturing at the technical  
02:29 university of dublin since 2017  
02:33 in the area of renewable energy he's  
02:35 also doing a phd on  
02:36 dynamic energy performance of low carbon  
02:38 insulation  
02:39 hemp create so we start with you if you  
02:42 want to share your screen with us there  
02:44 now

Liam Donahoe  
03:40 i'm a lecturer in the technological  
03:43 university in dublin  
03:44 and also a person with a good background  
03:47 in  
03:48 hemp and i suppose diversification of  
03:52 farm business um to make alternative use  
03:55 of products and particularly waste  
03:56 products  
03:57 today i'm going to talk about the  
03:59 process to get the  
04:01 hemp products that can be grown in  
04:03 Ireland or anywhere else  
04:05 certified for use as building materials  
04:08 and so just a little bit of stuff i

1705 04:11 suppose about myself first of all  
1706 04:14 this will indulge me there  
1707 04:21 and now  
1708 04:25 i'm trying to get my old slideshow to  
1709 04:27 work here  
1710 04:42 now uh i'll just close this for a second  
1711 04:45 and uh reopen it and i'll  
1712 04:48 talk in the meantime  
1713 04:56 okay that's more like it and so  
1714 05:00 my background as i said is in energy  
1715 05:02 consultancy that's my  
1716 05:04 main day job at the moment and i would  
1717 05:07 work a lot with  
1718 05:08 other engineers architects and  
1719 05:10 homeowners to specify materials and  
1720 05:12 do you value calculations and help  
1721 05:14 people get grants and also  
1722 05:16 help produce a low energy design to meet  
1723 05:19 the building regulations  
1724 05:21 i'm also involved in a few industry  
1725 05:23 groups as you can see there  
1726 05:25 in the hemp world as well and as Barry  
1727 05:28 said i'm doing  
1728 05:29 a um a phd at the moment in hemp creek  
1729 05:33 um so what i'm looking at there is just  
1730 05:35 a house that my  
1731 05:36 father grew up in believe it or not and  
1732 05:38 a couple of years ago  
1733 05:40 i went to have a look at it and i saw  
1734 05:41 there was an earth built house  
1735 05:43 and it's probably 150 years old there's  
1736 05:46 a few bits of it um under the weather  
1737 05:50 it's  
1738 05:50 used as agricultural shed at the moment  
1739 05:52 uh but  
1740 05:53 it's as dry as a bone inside  
1741 05:57 um 150 years later so  
1742 06:00 um really what we're doing here as  
1743 06:03 as Barry said is we're we're talking  
1744 06:05 about a material  
1745 06:06 and a process which is already uh  
1746 06:09 if you like vernacular and known to us  
1747 06:11 and  
1748 06:12 and we're updating it in the context of  
1749 06:15 today's world  
1750 06:16 and with modern standards of  
1751 06:18 certification  
1752 06:19 so um words that would be thrown around  
1753 06:22 in sort of worlds that i work in are  
1754 6:25 things like building energy rating and  
1755 06:27 major renovation  
1756 06:28 and now what we're talking about is  
1757 06:31 aligning that  
1758 06:32 with the movements that are happening in  
1759

06:36 the world  
06:36 of farming as well uh the farm to fork  
06:39 strategy  
06:40 and the new green deal and hemp has a  
06:43 particularly  
06:44 valuable role to play in this area and  
06:47 given  
06:48 that um it has very low what we call  
06:51 embodied energy so an embodied energy  
06:53 just describes the amount of energy  
06:55 that's  
06:55 uh required to produce something and  
06:58 bring it to the  
06:59 to the to the gate and all right and  
07:02 obviously  
07:03 if uh heaven has grown in a field um  
07:06 it is fairly low input uh there is some  
07:10 processing that has to be done  
07:11 but it's very low input compared to  
07:13 processing of plastics  
07:15 and and also it has this ability that  
07:18 will store carbon uh within the lifetime  
07:21 of the building  
07:22 so um we think that hemp is very much  
07:25 aligned  
07:26 to the broader movement that's happening  
07:28 in in the world  
07:29 and in Europe specifically and where  
07:32 we're trying to reduce emissions uh by  
07:35 insulating buildings  
07:36 so we think that hemp has a great role  
07:39 to play here  
07:40 so in my talk i'm going to talk mostly  
07:42 about  
07:43 legislation and standards and i'm going  
07:45 to talk about the materials and then i'm  
07:47 going to just  
07:48 show you sort of what the developments  
07:49 are out there in  
07:51 Europe uh as we speak all right  
07:54 so this slide just sort of sets out the  
07:57 the main kind of  
07:58 references and if you like for  
08:01 someone who wants to use hempcrete as a  
08:04 material  
08:04 or hemp fibre insulation so those are  
08:07 technical guidance documents they'd be  
08:09 produced by the department of housing  
08:11 and every  
08:12 so often they're updated uh basically  
08:15 for the last  
08:16 15 years now uh every time they've been  
08:18 updated  
08:19 and what the upshot of it is is that you

1760 08:21 have to put in  
1761 08:22 more and more insulation into your  
1762 08:24 buildings both new buildings and also  
1763 08:26 now  
1764 08:26 in renovations and then on the right  
1765 08:30 hand side there what we're looking at  
1766 08:31 is a man using a spray gun and that  
1767 08:34 spray  
1768 08:35 material is a method of applying hemp  
1769 08:38 create  
1770 08:38 and it's particularly good for something  
1771 08:41 like  
1772 08:41 an old building a historical building  
1773 08:44 where you just want to apply a thin  
1774 08:45 layer  
1775 08:46 now all materials within the EU have to  
1776 08:49 meet also what's called the construction  
1777 08:51 products directive  
1778 08:52 which is a basic set of guidelines um  
1779 08:55 around  
1780 08:56 the usability of materials that they're  
1781 08:58 fit for the purpose an  
1782 09:00 the basic standard of tests and then if  
1783 09:02 we drill down  
1784 09:04 more specifically into that and we would  
1785 09:06 be looking there to  
1786 09:08 the left and the environmental design  
1787 09:10 guide from sibzi  
1788 09:12 and to establish the the u-value  
1789 09:15 calculations  
1790 09:16 for a building material and that's what  
1791 09:19 links in then to the  
1792 09:21 part I's now um what we're looking at  
1793 09:24 here is  
1794 09:25 uh you know how would you go about  
1795 09:27 building a hemphouse today  
1796 09:29 in all right so on the left hand side  
1797 09:31 there you can see  
1798 09:32 little girl is just uh playing with the  
1799 09:35 the hemp flowers and so on  
1800 09:37 and that's processed into uh the inner  
1801 09:40 core as Barry said of that plant is then  
1802 09:42 processed into a hemp shiv and  
1803 09:46 that product that you're seeing there is  
1804 09:48 a well established  
1805 09:49 french product uh which has a particular  
1806 09:51 material specification  
1807 09:53 so all of this work has already been  
1808 09:55 done actually  
1809 09:56 for hemphshiv um it's it's we're not  
1810 09:58 reinventing the wheel it's it's already  
1811 10:00 at a very advanced  
1812 10:02 stage in a couple of countries and on  
1813 10:05 the right hand side what you're seeing  
1814

10:06 is actually a passive house in county  
10:08 longford  
10:09 uh built from hemp so you can see that  
10:12 this is  
10:12 really a reality and that a person could  
10:15 grow their own hemp  
10:17 it and build their own house with it  
10:19 like it's not it's not a pipeline or any  
10:22 type of agricultural building but in  
10:24 order to do that  
10:25um we do need processing we need to be  
10:28 able to  
10:29 decorticate the fibre which basically  
10:31 means to strip the shiv  
10:33 and the core apart the fibre then can be  
10:35 used for insulation or textiles  
10:37 and the inner part can be chopped up and  
10:40 turned into  
10:41 shiv we need to keep them dry and there  
10:44 is a sort of a general rule as well  
10:46 for the length of the shivs and and  
10:48 there's a standard as it said  
10:49 specification that has been produced in  
10:52 France  
10:52 for that now uh  
10:55 let's say that you have your fibre and  
10:58 chips made  
10:59 what do you do so obviously you have to  
11:01 go back to my previous slide there  
11:03 and start to do some material tests you  
11:06 know write it broadly  
11:07 you need to certify the thermal  
11:09 conductivity of the formulation  
11:12 so the formulation is taking those shivs  
11:15 and adding a binder of some sort it's  
11:17 usually a lime binder lime based binder  
11:20 but in fact i've been doing a lot of  
11:22 different experiments on different kinds  
11:24 of binders and you can use  
11:25 all kinds of things you can use ggbs and  
11:28 and you can use clay even  
11:32 you know so you just get different  
11:33 material properties every time but there  
11:36 there are again a couple of companies  
11:37 who have gone  
11:39 quite far with this and um broadly  
11:42 speaking they will use a binder with a  
11:43 good bit of lime maybe two different  
11:45 kinds of lime and and possibly  
11:47 sometimes even a bit of concrete  
11:49 cement i should say in it  
11:50 but you don't have to do that um but  
11:53 what you do have to do if you  
11:54 if you want to get your your building



1815 11:56 certified is  
1816 11:57 you have to test the material to a test  
1817 11:59 standard which is called the en12667  
1818 12:03 and so generally for hempcreate you get  
1819 12:05 a fairly good  
1820 12:06 lambda value for it and and the same for  
1821 12:09 the fibre insulation  
1822 12:11 and so what you'd broadly expect is that  
1823 12:14 if you had say a rigid foam product  
1824 12:16 and you had 100 mil would say of  
1825 12:18 kingspan or something  
1826 12:19 you would get you'd have to use a 300  
1827 12:23 250 300 millimeter hemp wall uh  
1828 12:26 to get the equivalent insulation so you  
1829 12:29 then would get those tests done  
1830 12:30 in an accredited lab and and uh  
1831 12:34 you know you know i'm having a little  
1832 12:36 joke there uh  
1833 12:37 you know what i'm saying is that  
1834 12:39 actually all of these  
1835 12:40 things have been well tested now at this  
1836 12:42 stage so  
1837 12:44 um it's it's a bit of a cod really that  
1838 12:46 you'd have to jump through these hoops  
1839 12:47 but  
1840 12:48 at the moment if you want to get your  
1841 12:49 house uh  
1842 12:51 and you want to get it insured and if  
1843 12:53 you want to meet billing regulations you  
1844 12:54 want to get financed in the bank  
1845 12:56 you need a BER cert right you need  
1846 12:58 someone like me to come in and actually  
1847 12:59 give you a BER or search  
1848 13:01 and to be your assessor will need to see  
1849 13:04 accredited test data  
1850 13:05 so and i've actually managed to get the  
1851 13:08 SEAI in  
1852 13:08 in recent months to um accept  
1853 13:12 some of the French and Belgian uh data  
1854 13:14 that is there  
1855 13:15 uh but an Irish person probably using  
1856 13:18 their own hemp would have to um  
1857 13:20 to do at least some of those tests and  
1858 13:22 all right  
1859 13:23 and and you'd also to meet construction  
1860 13:25 products directive  
1861 13:26 um you have to do some basic fire  
1862 13:29 testing and strength testing  
1863 13:31 as well uh if you want to use a lot of  
1864 13:34 us  
1865 13:35 okay uh so let's say you're not going to  
1866 13:37 do that uh you're not going to become  
1867 13:39 a hemp tycoon um there but you're going  
1868 13:42 to buy materials  
1869

13:43 so and build your house so you know  
13:46 again i'm trying to establish here that  
13:48 there's many companies that have already  
13:50 uh gone down this road and have produced  
13:53 uh  
13:53 several products and systems several  
13:56 different types so there's  
13:57 there's t radical there who have a  
13:59 binder and hemp formulations it's a bag  
14:01 of hemp  
14:02 and a bag of lime that you put together  
14:03 and you mix there's isohemp who've made  
14:05 blocks  
14:06 uh structural blocks as well and lintels  
14:09 now  
14:0 uh there's a company as well in in Italy  
14:12 there who are who are doing something  
14:13 similar to iso hemp  
14:15 there's a block system in France called  
14:17 Gatti Chandra which  
14:18 use an infill of concrete for the  
14:20 structural element and  
14:22 there are even modular systems and which  
14:24 is kind of the way  
14:25 the building industry is going now where  
14:27 the house arrives on the site and  
14:29 you make it up and and i suppose what  
14:32 i'm saying is that  
14:33 up to now the building industry has been  
14:35 very much geared to producers with  
14:37 deep pockets and not the small companies  
14:39 but  
14:40 that's how the vast majority of end  
14:42 products are currently built  
14:44 so i need to just uh wrap up here and  
14:47 you can see this is a reality the seven  
14:50 million investment there recently for  
14:51 Isohemp  
14:52 in Belgium and we need to share the  
14:54 information uh  
14:56 all over the world how to standardise  
14:58 the materials and  
14:59 get it as generic as concrete and  
15:02 and we'll this is what success will look  
15:05 like it'll be a boring table of numbers  
15:07 like that that a bar assessor can use  
15:10 and  
15:11 then on the right hand side there it'll  
15:13 evolve from  
15:14 uh mostly one-off projects which we've  
15:16 seen already  
15:17 to a a housing estate that looks like  
15:21 any other housing estate

1870 Barry 15:48 uh how is hempcrete  
1871 15:52 hemp creek accepted within our national  
1872 15:54 building regulations or are there any  
1873 15:56 gray areas there  
1874 15:58 um no there's no there's no gray area  
1875 16:01 really uh barry as such um  
1876 16:05 in fact it's very black and white if if  
1877 16:08 the material  
1878 16:09 formulation has been tested to meet that  
1879 16:11 standard  
1880 16:12 that i put up on the screen you can use  
1881 16:14 it so  
1882 16:16 what i've what i've had to do is  
1883 16:18 actually get some of the  
1884 16:20 test standards that are available are in  
1885 16:21 French i had to had to persuade the SEAI  
1886 16:24 that i didn't need to hire a translator  
1887 16:27 to to refer to them  
1888 16:29 but other than that no there's uh you  
1889 16:31 know you go on a process  
1890 16:33 where you just go to laboratory and get  
1891 16:35 your material tested and produce a  
1892 16:36 figure for it  
1893 16:37 so it's it's not really that difficult  
1894 16:39 but um  
1895 16:41 so is there is there agreement approval  
1896 16:42 for it Irish agreement approval for it  
1897 16:44 um well nobody in Ireland has gone  
1898 16:47 through the process  
1899 16:48 of certifying a product for Irish  
1900 16:51 agreement however the the nature of the  
1901 16:54 the way the system works is that if you  
1902 16:56 have that EU standard  
1903 16:58 if it's an accredited laboratory in  
1904 17:00 France or Belgium it's recognised in  
1905 17:02 Ireland  
1906 17:02 as well so uh the the Irish agreement  
1907 17:05 standard is more uh kind of a marketing  
1908 17:08 thing that people do because they want  
1909 17:09 to  
1910 17:10 spend a bit money to sell more products  
1911 17:11 in in the Irish market and lean if it's  
1912 17:13 if it's fire retardant so it's fire  
1913 17:15 resistant  
1914 17:16 if it's as has those excellent u-values  
1915 17:19 that you mentioned there as well  
1916 17:20 why is are more houses not using it are  
1917 17:23 engineers not familiar with this  
1918 17:24 are are architects not familiar with it  
1919 17:26 are they the issues  
1920 17:28 yeah i i think the the the lack of local  
1921 17:31 supply is probably the biggest  
1922 17:33 issue Barry so um you know as you you're  
1923 17:36 we've  
1924

17:36 spoken about before it's it's to get  
17:39 decortication done  
17:40 at the local level uh that'll bring the  
17:43 price down most of the materials that  
17:44 you could use at the moment are imported  
17:47 but you know we're we're growing hemp  
17:49 now in  
17:50 greater numbers in Ireland so as soon as  
17:52 uh people  
17:53 see that it's readily available they  
17:55 will use it  
17:56 okay questions after that Liam thanks  
17:59 very much for that i'm going to go over  
18:00 to our next speaker there now who's Alan  
18:02 Jackson  
18:02 so Allen works as a senior chartered  
18:04 energy engineer with temporary energy  
18:06 agency for three days a week  
18:08 he also owns and runs a 120 acre organic  
18:10 farm  
18:11 for the past 12 years he supplies  
18:13 organic barley to Waterford distillery  
18:15 and organic oats to Flavons he also  
18:18 supplies organic hemp seeds to Linwoods  
18:20 but he's also developing his own brand  
18:22 of dehulled  
18:23 hemp seed lacquer organic hemp so Alan a  
18:55 with him so um yeah the first year i  
18:58 grew up i tried to go for the flower  
19:00 and it didn't really work out for me  
19:04 and i go i go to why i didn't and  
19:07 i've never been going for seed and it is  
19:10 it is  
19:10 like any product with farming you want  
19:13 to try and add value to us to actually  
19:14 to get a profit traumas  
19:18 okay so um  
19:23 sorry now okay so as daddy said  
19:27 um i converted over to organic farming  
19:29 in 2009  
19:31 um and i provide i produce um  
19:34 organic barley for water for distillery  
19:36 oats for flavins and b for good herdsmen  
19:39 and now i'm looking at  
19:41 hemp parts and that's the whole temp  
19:44 uh from the from the hemp seeds so just  
19:47 a couple of steps i suppose with anyone  
19:49 growing hemp the first thing you need is  
19:51 markets if you growers and you don't  
19:53 have a market you really have nothing  
19:55 and the hp rates you even grow this you  
19:58 need a license in the HPRA  
20:00 and part of that you do need a letter  
20:03 saying what your end use is going to be

1925 20:05 now again that is a letter from maybe  
1926 20:09 from you  
1927 20:10 but it's not a contract so you'd like to  
1928 20:12 have a contract in place before you  
1929 20:14 start growing this or at least have a  
1930 20:15 good idea of an outlet for us  
1931 20:18 so then we look at soil preparation  
1932 20:20 sewing harvesting  
1933 20:22 drying cleaning and there's also other  
1934 20:24 steps like bagging labeling depending on  
1935 20:26 where it's going to end up  
1936 20:28 so there is a lot of work a lot of work  
1937 20:30 with us  
1938 20:32 so this is a picture um of um  
1939 20:36 of my uh hemp here this is actually two  
1940 20:38 years ago and you can see kind of the  
1941 20:40 the taller plants  
1942 20:41 um are the male plants and they will  
1943 20:44 pollinate female plants  
1944 20:46 and they're the taller ones kind of  
1945 20:47 yellow over there that's uh the pollen  
1946 20:49 will come out of those pods  
1947 20:50 and um fertilise it the females  
1948 20:53 at the very bottom of the screen you can  
1949 20:55 see one major problem that i have  
1950 20:58 is red shank so um  
1951 21:03 so uh let me see so basically uh your  
1952 21:06 stores  
1953 21:06 in um April time the end of April time  
1954 21:09 you harvested in September  
1955 21:10 so it's not very frost tolerant you  
1956 21:13 definitely want to source  
1957 21:14 after um the first frost the  
1958 21:18 seeding range then 11 to 14 kilos  
1959 21:21 i like to sort as around maybe 14 kilos  
1960 21:24 because the thicker it is for me  
1961 21:25 the less chance i'm going to have weeds  
1962 21:28 um  
1963 21:29 and the earlier you sew earlier your  
1964 21:30 harvest is saying it doesn't it doesn't  
1965 21:32 like frost  
1966 21:33 and last year when a lot of us told us  
1967 21:36 was towards the end of April  
1968 21:38 and um there was frost and it did set it  
1969 21:41 back a little bit okay the varieties  
1970 21:44 there's different varieties of hemp  
1971 21:46 grow like as Liam was talking there  
1972 21:48 about some was used for construction  
1973 21:51 they're really tall fibre varieties that  
1974 21:53 grow 10 12 feet high  
1975 21:55 so the variety that i'm going for the  
1976 21:56 seed is called Fionola  
1977 21:58 now any seeds that um or any hemp that  
1978 22:01 you grow  
1979

22:02 has last year had to be under 0.2  
22:04 percent THC  
22:06 and that's not the narcotic component of  
22:08 the hemp state  
22:09 so that's been increased to 0.3 percent  
22:12 um  
22:13 for this year so it needs once you start  
22:15 work  
22:16 you have to watch the weather forecast  
22:17 you do need a lot of rain  
22:19 especially for the first couple of weeks  
22:20 after sowing this if you don't get rain  
22:22 after sowing us  
22:23 your crop will definitely and be reduced  
22:27 and it will definitely struggle so this  
22:29 year  
22:30 at the end of April there was some wet  
22:33 weather forecast a lot of  
22:34 soldiers it was dry then for the next  
22:37 three or four weeks  
22:38 and um the crop really struggled to get  
22:41 off the ground  
22:43 and the nutrients requirements i suppose  
22:44 depends what you're taking from the  
22:46 field  
22:46 Theagas like figures there 80 to 120  
22:48 kilos of nitrogen  
22:50 um hemp i suppose will grow fairly well  
22:54 but it you know people say it doesn't  
22:56 need that much nutrients but if the crop  
22:58 does grow vigorously it doesn't need  
22:59 nitrogen  
23:01 it will scavenge the ground for  
23:02 nutrition so are they  
23:04 although you may not need to put a lot  
23:05 of nutrients on it it will take whatever  
23:07 nutrients are there from your crop  
23:10 and and leave it to pieces for for the  
23:12 next one  
23:13 so going um i thought because of the  
23:16 fine seeds and you need  
23:18 basically you need to try and plough it  
23:20 and sort um  
23:21 quickly afterwards the reason for that  
23:23 is again weed suppression  
23:24 if you plough us and maybe tillers and  
23:26 maybe leave us for a week or two before  
23:28 your stores  
23:29 weeds are going to start germinating so  
23:30 you need to have the  
23:32 seed in as quickly as you can so it can  
23:35 compete with weeds  
23:36 with weeds so do not sort into a dry  
23:38 seed bed

1980 23:40 you can see here on the picture below  
1981 23:42 that seed bed is very dry  
1982 23:44 um so as you can see there's just a  
1983 23:47 grass harrow i  
1984 23:48 was throwing this with and and it worked  
1985 23:50 fine rollers afterwards especially  
1986 23:52 that's keeping the moisture  
1987 23:54 that's why i was saying don't sow into  
1988 23:56 dry soil so this is two years ago  
1989 23:58 i sold 20 acres of it and  
1990 24:02 the red shank just got ahead of us and  
1991 24:03 destroyed us um i then resold  
1992 24:06 uh four acres of that field in late July  
1993 24:10 and as i say it was for the flower and  
1994 24:11 it did actually very well  
1995 24:13 um but you can just see what can happen  
1996 24:15 and that's that'll happen if you do have  
1997 24:18 a seed bed that has weeds in it if you  
1998 24:22 don't get a good start  
1999 24:24 again this is a drought if we remember  
2000 24:26 back a number of years ago there was a  
2001 24:27 drought there for maybe six weeks  
2002 24:29 didn't rain and the hemp just struggled 24:32  
2003 harvesting again as i said that the  
2004 24:34 seeds actually the plant harvests a  
2005 24:36 different  
2006 24:37 er er the seed and the head of the plant  
2007 24:40 um ripens at different rates so you do  
2008 24:44 get  
2009 24:44 um you know see some green seeds as well  
2010 24:48 there's some as well as some  
2011 24:49 ripe seeds in it so it is difficult to  
2012 24:51 combine um especially in September  
2013 24:54 like is our weather actually suited for  
2014 24:55 hemp and  
2015 24:58 if you get a good September it is we  
2016 24:59 often don't so  
2017 25:01 um i've heard of a lot of combines  
2018 25:03 blocking  
2019 25:04 and maybe coming in two or three times  
2020 25:06 to try and uh cut a crop  
2021 25:08 and having to leave this for a better  
2022 25:10 day so it is difficult  
2023 25:12 to the combine you don't use a  
2024 25:16 rosary combine because the hemp stalks  
2025 25:19 will just twist around  
2026 25:20 the rotor and and destroy it  
2027 25:24 so straw walkers are the combines that  
2028 25:26 you should use  
2029 25:28 as uh it's high in moisture so it needs  
2030 25:30 it needs to be on  
2031 25:31 air or heat within the first three or  
2032 25:33 four hours if you leave it till the next  
2033 25:35 day  
2034

25:35 it's going to be extremely hot and then  
25:37 there might be a taint house of us or  
25:38 whatever you are  
25:39 you're producing the quality of us so  
25:42 and that's the thing that's the  
25:43 difference if you're growing um oats or  
25:45 barley  
25:46 you have it you combine this when it's  
25:47 dry it's in the shed it goes into  
25:49 an arctic and it's gone for this you  
25:52 really have to look after us  
25:53 a grain drying trailer is ideal there's  
25:55 not many of them around  
25:57 batch dryers people have used them  
25:58 successfully and but  
26:00 they also block and also  
26:04 make sure that just low heat i see some  
26:07 seeds it comes through me because i do  
26:08 that cleaning of the seeds  
26:10 it kind of looks a little bit scorched  
26:12 so you just have to be very careful  
26:13 in terms of of dryness looking at the  
26:17 finance again this is looking at  
26:18 um or an organic crop and  
26:22 now i suppose one thing i i just say  
26:23 about these figures is that  
26:26 these are for one year and you do have  
26:28 to look at  
26:29 um a little over maybe five years  
26:31 because  
26:32 you do need the crop rotations to go  
26:33 back into grass and so  
26:35 that first one of our yields it  
26:36 shouldn't be a euro sign there that's  
26:38 actually it should be kilos  
26:39 400 kilos if you get 400 kilos a hemp  
26:42 the next  
26:42 column is if you get 250 kilos a hemp  
26:45 per acre  
26:46 um the barley then is two tonne per acre  
26:47 and oats two and a half ton  
26:49 per acre so you can see the feed uh  
26:54 the seed costs um of hemp are expensive  
26:58 and the rest plough too so all that's  
27:01 the same for the the barley notes  
27:03 drying is is expensive and six years per  
27:05 ton is what people were  
27:07 were paying this year from um from one  
27:10 or two different sources  
27:11 and transport as well depending if  
27:13 you're just bagging this and  
27:15 transporting half a ton on the palace  
27:17 um it depends on what way your transport  
27:19 is cleaning us

2035 27:20 again and these are per acre um it's  
2036 27:23 very difficult to clean  
2037 27:25 i have a seed cleaner and i had to run  
2038 27:26 it through two twice and three times  
2039 27:29 it's  
2040 27:29 a very dirty crop because you saw that  
2041 27:30 sample there where it was coming out of  
2042 27:32 the harvester so it is very difficult to  
2043 27:34 clean  
2044 27:35 um so you can see and the yields as well  
2045 27:39 uh 400 kilos per acre actually i got 400  
2046 27:42 400 kilos this year which is extremely  
2047 27:44 good  
2048 27:45 but i know people sold a lot of us and  
2049 27:49 they got around 100 kilos so at 100  
2050 27:51 kilos  
2051 27:52 is an organic price to 2400 you're not  
2052 27:54 going to make you're going to lose one  
2053 27:56 the others  
2054 27:56 and a lot of it is weather dependent  
2055 28:00 um so pros and cons um  
2056 28:03 you know it's the same with anything for  
2057 28:05 selling wheat barley also whatever  
2058 28:07 you're selling off the farm if you want  
2059 28:08 to add value to it  
2060 28:10 you have to sell it as a foods and  
2061 28:11 there's a lot of uh rules and  
2062 28:13 regulations around us  
2063 28:14 it's good for crop rotation carbon  
2064 28:16 sequestration and  
2065 28:19 if if you plug if you apply the stocks  
2066 28:21 back in you'll be with the  
2067 28:22 sequester some carbon for you cons  
2068 28:25 weather dependent  
2069 28:26 and you need a lot of equipment for it  
2070 28:29 and you really need your own equipment  
2071 28:30 so you can do this when it needs to be  
2072 28:31 done  
2073 28:32 um final tip i suppose get a contract  
2074 28:35 with the end user so you're  
2075 28:36 supposed to not left to this i suppose  
2076 28:38 you need a backup plan as well if  
2077 28:39 something goes wrong with your seed what  
2078 28:40 you do with it  
2079 28:41 we barley notes you can sell it you know  
2080 28:43 you can give it to cattle or whatever  
2081 28:44 with this  
2082 28:45 um you can feed us but there's not much  
2083 28:47 of a market out there  
2084 28:48 that's just a picture of a seed cleaner  
2085 28:51 um  
2086 28:52 um and basically at the minute what i'm  
2087 28:55 doing is i'm trying to  
2088 28:57 um set up a food  
2089

29:01 market so basically what i'm trying to  
29:02 do is to produce um  
29:04 Irish organic hemp seeds and sell us  
29:07 both as um hemp seeds and foster bots at  
29:11 that's on the way as well to sell this  
29:12 hen partially huddled hemp seed

Alan thanks very much for that and what  
29:24 you're doing is you're really trying to  
29:25 take the  
29:26 whole supply chain into your own hand to  
29:28 a large degree which isn't  
29:29 supposed for the faint-hearted you're  
29:31 trying to grow the crop as well as  
29:33 clean it and market it as well and you  
29:35 know that's  
29:36 i suppose that's really where you have  
29:37 to go with it because the markets are  
29:39 not very established and so it's  
29:41 important that we make those points  
29:42 that there's not very very strong  
29:44 markets for hemp in Ireland but you're  
29:46 trying to create those markets  
29:47 uh at the moment you mentioned there  
29:49 that um  
29:50 the sea price for the hemp is 161 euro  
29:53 per acre  
29:54 compared to barley which is coming in at  
29:55 around 43 euro per acre  
29:58 um is there do you see an opportunity in  
30:01 the future whereby maybe  
30:02 barley or by hemp seed prices could come  
30:04 down if we start producing the hemp seed  
30:06 within the country  
30:08 yeah like i suppose we it could now the  
30:10 thing is i suppose the people who like  
30:12 for knowledge the people who owned us  
30:14 have to get their royalties on us  
30:16 and so look there is a possibility and  
30:19 there's a possibility of breeding our  
30:21 own varieties and breeders coming  
30:22 on board and again it'll all have to  
30:25 pass through  
30:25 the department of agriculture as well um  
30:28 to to  
30:29 to get approval because as far as i know  
30:31 at the minute you can't actually keep  
30:33 your own seed  
30:34 to show you always have to buy in and  
30:37 buy nc  
30:38 certified seeds okay alan we leave it at

Killian Mc Grath



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2090 31:04 so Killian is uh he started working with  
2091 31:07 the Irish organic hemp farmers in early  
2092 31:09 2017  
2093 31:10 he's an extensive understanding of how  
2094 31:12 CBD is produced and is passionate about  
2095 31:14 marketing 100  
2096 31:15 Irish natural cannabidiol oils balm skin  
2097 31:18 care and pet care products  
2098 31:20 from growing harvesting and extracting  
2099 31:22 CBD from the hemp plant  
2100 31:24 Killian oversees everything from seed to  
2101 31:26 the end product he's also actually  
2102 31:28 takes the product there from Alan who  
2103 31:30 you just heard as well  
2104 31:31 Killian is also a member of the Irish  
2105 31:33 hemp cooperative  
2106 31:34 i suppose i just forgot to mention that  
2107 31:36 at the start the Irish hemp cooperative  
2108 31:37 is a 31:38 body which uh brings together farmer  
2109 31:41 growers and  
2110 31:42 tries to help market the hemp uh pages  
2111 31:45 here in Ireland  
2112 31:46 so Liam Allen and uh Killian are members  
2113 31:49 of the Irish hemp cooperative  
2114 32:08 is to go through with the people that  
2115 32:10 are interested in getting involved  
2116 32:11 in the hemp industry where the  
2117 32:13 opportunity lies for you  
2118 32:16 one of the largest things in the hemp  
2119 32:17 industry is that it's such a diverse  
2120 32:19 plant you can make so many different  
2121 32:20 products from it  
2122 32:22 um and it's getting those products to uh  
2123 32:29 uh uh that isn't  
2124 32:32 uh so much part on uh you want to  
2125 32:36 uh i suppose really uh create uh  
2126 32:39 um a finished product so that you're  
2127 32:42 getting the full  
2128 32:43 value um and that's what we have done  
2129 32:45 here uh  
2130 32:46 in your uh with farmers back in 2017  
2131 32:49 and we're doing an awful lot of research  
2132 32:50 and development uh on hemp  
2133 32:52 hemp oil the sediment what can we do  
2134 32:54 with the sediment what can we do  
2135 32:56 with the cake which should be our waste  
2136 32:59 and now we create products from  
2137 33:01 every part of the seed that we mill here  
2138 33:04 in this plant  
2139 33:05 uh we don't have any waste whatsoever  
2140 33:08 our aim originally was always to  
2141 33:10 uh provide the Irish consumer with the  
2142 33:11 highest quality uh  
2143 33:13 CBD islands planted grown harvest  
2144  
33:15 processed and packaged here in Ireland  
33:16 so it's a pure Irish product grown by  
33:18 Irish farmers  
33:19 uh processed by Irish processors and  
33:22 the finished product uh completed here  
33:24 by uh Irish manufacturing companies  
33:27 um so from that end you know there is  
33:30 huge opportunity there for  
33:32 uh um you know not even just for farmers  
33:35 to grow  
33:36 it because you know like Alan said you  
33:39 have to have  
33:40 the equipment you have to have to wear  
33:43 it all  
33:45 and you have to have the weather you  
33:47 know what i mean so  
33:48 you know for small indigenous farmers  
33:50 are you better off buying the raw  
33:51 material  
33:52 from the likes of Alan like what i do  
33:55 and then i make my products from that  
33:58 here you can see that uh in in December  
34:00 2019 we opened up our facility in y'all  
34:03 it's a manufacturing facility uh where  
34:05 we make uh  
34:07 i think about 60 different products  
34:08 today ranging from human products  
34:11 uh um uh all the way through to equine  
34:14 products and also a pet range  
34:17 there are six different zones inside in  
34:20 the  
34:21 clean room area factory  
34:25 uh where we do different we say jobs in  
34:28 zone one and two  
34:29 uh it's where we store the seed in the  
34:30 oil in zones four and five we produce  
34:32 the bands  
34:33 oils and creams um  
34:37 then in zone six uh we grind down we say  
34:39 the meal cake  
34:40 and produce our powders um so you know  
34:43 we actually have absolutely no waste  
34:46 from this plant uh from the seed from  
34:49 this plant that we  
34:50 manufacture here in in all as you can  
34:52 see here again these are just the bags  
34:53 that we get in  
34:55 uh um uh into our facility here from the  
34:58 likes of Allen  
35:00 Ed Handbridge you also have Glenn Evans  
35:02 uh Liam Linum  
35:04 uh we have about ten different farmers  
35:06 that actually  
35:07 grow for us uh this year i think we

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2145 35:11 brought in about  
2146 35:11 40 ton maybe 45 ton sorry  
2147 35:15 we're still waiting for some of the uh  
2148 35:17 seed bags to come in  
2149 35:19 uh from uh we say some of the lads as  
2150 35:22 uh Alan uh this morning just loaded an  
2151 35:25 artic load  
2152 35:26 of seed for us we're expecting that to  
2153 35:28 arrive here within the next  
2154 35:29 hour or so um  
2155 35:32 so like uh again you know i suppose  
2156 35:35 you're down to  
2157 35:36 your product uh um like we do extensive  
2158 35:39 testing  
2159 35:40 uh we do turpentine analysis uh  
2160 35:44 cannabinoid profile analysis  
2161 35:46 that we tested for pesticides uh we  
2162 35:49 tested for heavy metals  
2163 35:51 uh we test for trace minerals  
2164 35:53 microbiological analysis  
2165 35:55 you know so we know what we have in the  
2166 35:57 products that we are producing that we  
2167 35:58 are pushing out into the into the  
2168 36:00 um into the wider community um and again  
2169 36:03 it's very important  
2170 36:05 uh that you know what's in your product  
2171 36:07 okay  
2172 36:09 um when the results come back from the  
2173 36:11 seed  
2174 36:12 we begin the milling process the seed  
2175 36:14 enters the milling machine  
2176 36:16 the press says removes the oil and the  
2177 36:18 sediment  
2178 36:19 uh the immediate cake then comes out in  
2179 36:21 the form of a nut  
2180 36:23 which we further break down then and we  
2181 36:24 turn that into our powders  
2182 36:26 um again uh what we're  
2183 36:29 doing here is we are making use of every  
2184 36:32 piece of the plant  
2185 36:33 okay our main goal here was to  
2186 36:36 uh produce the highest quality product  
2187 36:40 and dried down the prices of CBD on the  
2188 36:44 Irish market  
2189 36:46 uh one of the biggest problems we had  
2190 36:47 was you know there was a lot of  
2191 36:48 fraudulent product on the market  
2192 36:50 people claiming that there was extra  
2193 36:51 amount of milligrams insideness  
2194 36:54 and it wasn't you know it was just a  
2195 36:55 nice fancy label  
2196 36:57 so you know the whole idea of what we're  
2197 36:58 trying to do is to try and create a  
2198 37:00 market  
2199

37:01 and to create a market people have to  
37:02 trust your product so you have to make a  
37:04 very high quality product  
37:07 um and that's what we that's what that's  
37:09 what we do here in Europe  
37:11 um so our powder range uh  
37:14 ranges in strength from nine thousand  
37:16 milligrams all the way up to thirty  
37:17 thousand milligrams  
37:19 and comes in an array of flavors natural  
37:21 mac and cacao spirulina wheatgrass  
37:25 turmeric and black pepper and again  
37:28 these are just  
37:28 uh different it's the same powder just  
37:31 different blends  
37:32 again creating a whole new range of  
37:35 products  
37:36 we do massage oils uh different ranges  
37:3 again different flavors  
37:41 and we do pet products  
37:44 again different strengths we do a range  
37:47 called paws  
37:51 again for small pets uh big paws for  
37:54 bigger pets  
37:55 and working paws for we say working dogs  
37:59 and again all different strengths and  
38:01 side and bottle sizes  
38:04 now one of our most exciting products  
38:05 that we have here is  
38:07 the equine industry so we have created  
38:12 a powder uh  
38:15 again from the nut for the equine  
38:17 industry  
38:18 and we are getting fabulous results uh  
38:20 on that from  
38:22 the people that are using it in the  
38:23 equine industry at the moment  
38:25 okay again here you see  
38:28 we have different products you have  
38:30 recovery age gamete  
38:32 you have jointed uh you have quick fix  
38:36 and you have riderate again it's not  
38:38 just for the horses it's for humans as  
38:39 well 38:41 so i suppose uh here again we do white  
38:43 labelling this is a products  
38:45 range of products that we make for CBD  
38:48 phenomenal  
38:49 uh which are a private label  
38:52 then we also do a lot of r and d here in the  
38:55 facility at the moment  
38:57 uh we're working on face creams uh with  
39:00 CBD inside and um  
39:03 and then we have i suppose i suppose our  
39:06 view for the future is to actually build

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2200 39:08 a larger facility than we have here and  
2201 39:10 create a wider range of products again  
2202 39:12 for the export market and i suppose that  
2203 39:15 gives you a good rundown on on what  
2204 39:16 we're  
2205 39:17 what we're about and what we're trying  
2206 39:18 to do here back to you there again Barry  
2207 39:21 thanks very much Killian that was a  
2208 39:22 great overview and you're given you're  
2209 39:24 describing something that's  
2210 39:26 essentially an outlet our market for  
2211 39:28 Irish uh  
2212 39:29 CBD products um can you just  
2213 39:32 maybe give us another we have a lot of  
2214 39:34 questions that are coming in and you  
2215 39:35 know if we'll be able to get to the mall  
2216 39:36 as he Alan is answering quite a few of  
2217 39:38 them Alan is answering some of them  
2218 39:39 there as well  
2219 39:40 but maybe just kidding just to ask you  
2220 9:42 you obviously have to extract CBD  
2221 9:44 is it your are you allowed to extract it  
2222 9:46 from the flower head or are you  
2223 9:47 extracting it  
2224 39:48 from the seed itself and can you just  
2225 39:50 describe maybe the process how you  
2226 39:52 extract  
2227 39:52 CBD and what's left over well i suppose  
2228 39:55 here in the facility in y'all we just  
2229 39:57 work with the seed  
2230 39:58 we don't work with the with the bud you  
2231 40:00 know what i mean  
2232 40:02 for us that's a lot cleaner uh there is  
2233 40:04 a little bit of controversy between you  
2234 40:06 know  
2235 40:07 using the bud and using the seed so we  
2236 40:09 just stick to using the seed  
2237 40:11 we brought in a milling machine from  
2238 40:13 Germany uh that has  
2239 40:15 double press heads um you know so we  
2240 40:18 extract our oil through that it's a slow  
2241 40:20 enough process you know we're  
2242 40:22 you're looking at 24 hours of milling to  
2243 40:23 process a ton you know what i mean so  
2244 40:25 we're going to have to get in another  
2245 40:26 two or three of those machines this year  
2246 40:28 uh so we can process it at a faster rate  
2247 40:31 if i could just ask Liam and Alan to  
2248 40:33 plan their cameras there again please  
2249 40:35 and we'll go back to the questions a lot  
2250 40:37 of questions coming in there  
2251 40:39 are there extraction rules around CBD  
2252 40:41 there uh Killian  
2253 40:44 there is yes and there are certain  
2254  
40:46 methods that are after  
40:47 they're after banning uh there is uh  
40:51 co2 extraction is quite frowned on uh  
40:54 ethanol extraction is heavily frowned on  
40:57 because now you're adding in  
40:58 chemicals into this perfect plant that's  
41:01 so natural and  
41:02 organic and so like from our side we  
41:05 find that the cold pressing  
41:07 uh kind of fits the bill with whatever  
41:09 in that you know the criteria  
41:11 and the quality of product that we can  
41:12 get from it by cold pressing  
41:14 okay guys i'm going to go through as  
41:17 many of these questions as we can as  
41:19 possible and  
41:20 they relate to all the panellists here  
41:22 because we only have 20 minutes to get  
41:24 through them  
41:24 so first one here i think it's mainly in  
41:26 well maybe Alan as well are there  
41:28 decorticators or processors for those  
41:30 who grow hemp  
41:31 for fibre here in Ireland  
41:35 Liam that's what that goes back to um to  
41:37 what you were talking about there is the  
41:39 use of  
41:40 um you know the the shivs the herds  
41:44 uh so you're essentially using the  
41:45 fibres so you obviously have to maybe  
41:47 just describe that process of  
41:48 decartification because  
41:50 that might make sense to everybody so  
41:52 you have your  
41:53 hemp straw that's left over maybe after  
41:55 the combine so you extract the seed you  
41:57 have the straw left over and you have to  
41:58 utilize that straw  
41:59 but it has to be retted for a while to  
42:01 allow the fibres to separate  
42:02 and then it goes to a decortification  
42:04 process can you describe that  
42:06 is it is that process available in  
42:08 Ireland uh yeah  
42:09 no problem very so um so i i always say  
42:13 to people like that process  
42:14 is a bit like winning hay so you need to  
42:16 kind of know  
42:17 how to do it to do it successfully if  
42:20 you do it in the field  
42:21 and so at the moment there are a couple  
42:24 of people that have  
42:25 a small scale decarticators there are  
42:28 and they

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2255 42:29 they do a few jobs for for people in the  
2256 42:31 locality there's a man in Galway who has  
2257 42:33 one and  
2258 42:34 Nile o'Neill has uh some kind of a  
2259 42:36 system as well down in Kilkenny there  
2260 42:38 and i know that uh farmers who supply  
2261 42:42 Celtic wind up in Dundalk and that area  
2262 42:45 and they have some sort of a contract  
2263 42:47 with um  
2264 42:48 with Yorkshire uh who actually used the  
2265 42:52 fibre to make  
2266 42:53 um mattress covers or comforters or  
2267 42:55 something like that so  
2268 42:56 so there are a few people doing it and  
2269 42:58 there are a few people processing it  
2270 43:01 but it does need a bit of an investment  
2271 43:03 to do it at scale and  
2272 43:04 the question is what's the right type of  
2273 43:07 investment so  
2274 43:08 for example the the company i showed you  
2275 43:10 there Gatti chamber in France  
2276 43:12 uh that's like a sort of a co-op uh  
2277 43:15 there are uh you know about 20 000  
2278 43:18 hectares there  
2279 43:19 uh being grown within a 50 mile radius  
2280 43:23 of that plant and so that would be the  
2281 43:26 ideal scenario Barry that  
2282 43:28 um that there would be you know groups  
2283 43:30 of 10  
2284 43:31 15 20 farmers uh growing maybe 40 to 50  
2285 43:34 acres  
2286 43:35 and then it would all be uh processed in  
2287 43:38 in  
2288 43:38 in somewhere that is thank you and y  
2289 ou  
2290 43:41 guys have those structures together 43:42 because  
2291 you're all part of the Irish  
2292 43:44 hemp cooperative  
2293 43:44 is that maybe the was the foundation  
2294 43:47 body whereby you can  
2295 43:48 coordinate yourselves collectively to  
2296 43:50 develop and decartification process and  
2297 43:52 how much would that cost what type of an  
2298 43:54 investment because you mentioned the  
2299 43:55 mobile decartificators  
2300 43:57 yeah then you have the permanent fixed  
2301 43:58 structures as you mentioned in France  
2302 44:00 what's the difference in price um well i  
2303 44:03 think the mobile  
2304 44:04 systems are coming in at about 250 to  
2305 44:07 300 000  
2306 44:08 if memory serves me right um and then  
2307 44:11 you could go up to  
2308 44:12 a couple of million for a more  
2309  
44:14 sophisticated system like the  
44:16 Laroche system which which then you  
44:18 would produce several products from  
44:20 all right so it depends kind of how many  
44:23 end users you want out of it Barry um  
44:25 but a very basic system to do  
44:27 decortication you can even buy  
44:29 secondhand equipment to do that and  
44:31 somebody asked on the chat there uh  
44:33 could you could you do that could you  
44:35 build your own house  
44:36 and and you could all right the the  
44:38 issue is if you want to get finance or  
44:40 you want to get it certified  
44:42 uh then you'd need these material tests  
44:44 as well  
so the HPRA just to 44:56 reiterate that that's the health  
product  
44:58 regulatory authority  
44:59 they issued the license to Alan to  
45:01 Killian for growing their hemp and  
45:04 they're under the department of health  
45:06 so  
45:08 could you answer that maybe Alan what  
45:10 are the security requirements  
45:11 uh likely to be with HPRA aid if you  
45:14 don't live beside the crop itself  
45:16 yeah i don't think it should be much of  
45:18 an issue i suppose the best thing  
45:19 is to contact the HPRA sending the  
45:21 license and see what you think  
45:23 i suppose over the last number of years  
45:25 um you know  
45:26 people are growing this is more people  
45:28 know more about us that no no it's not  
45:30 cannabis um  
45:32 so i'd say you won't have too much  
45:35 problem  
45:35 they don't like you going beside the  
45:37 main definitely a main road  
45:39 they say any roads was i think some  
45:40 people have been able to grow us  
45:42 close to um more by roads but um  
45:45 as long as it's not near a school or um  
45:48 you know in a town  
45:49 there should be no problem okay Alan  
45:53 there's  
45:54 currently about 20 or about 70 different  
45:56 varieties of industrial hemp which  
45:57 farmers can legally grow  
45:59 in Ireland with the THC content of less  
46:01 than 0.2 percent  
46:02 and you mentioned that 2.2 percent delta  
46:04 9 THC or tetrahydrocannabinol

2310 46:08 but since the 31st of October 2020 the  
2311 46:10 European parliament has voted in favor  
2312 46:12 of increasing  
2313 46:14 our the authorized THC level for  
2314 46:16 industrial on the field  
2315 46:18 from 0.2 to 0.3 percent does this mean  
2316 46:21 that there'll be more varieties  
2317 46:23 available or is that already available  
2318 46:24 in Ireland at the moment  
2319 46:27 yeah so it means that there will be more  
2320 46:28 varieties available and now  
2321 46:30 in terms of i suppose people that are  
2322 46:32 making CBD out of us they may be able to  
2323 46:34 get  
2324 46:34 a higher CBD content because there's a  
2325 46:37 strong correlation between the THC  
2326 46:39 content and the CBD content  
2327 46:41 in terms of i suppose what i'm doing and  
2328 46:45 um one thing i'll be looking at is  
2329 46:47 yields i suppose of the seed  
2330 46:49 so if it's will the 0.3 strengths  
2331 46:51 actually give me a higher  
2332 46:52 yield per acre now that's something i'd  
2333 46:56 have to study and look up  
2334 46:57 but so far i think a lot of people like  
2335 47:00 the Finola  
2336 47:01 and the taste of it the look of us so um  
2337 47:04 it's something i'm going to have to  
2338 47:04 research  
2339 47:05 to see if there is a more suitable and  
2340 47:08 higher yielding  
2341 47:09 seed variety out there for me and has  
2342 47:11 this legislation been transposed into  
2343 47:13 Irish law yet  
2344 47:15 i've been increasing to from 0.2 to 0.3  
2345 47:18 THC in the field  
2346 47:19 for the seed i don't actually know that  
2347 47:22 i have to talk maybe maybe Liam or one  
2348 47:23 of the other guys  
2349 47:24 right now uh no Barry as  
2350 47:27 as far as i understand it's not impo  
2351 47:30 it's not  
2352 47:30 been introduced in Irish law and there's  
2353 47:33 a  
2354 47:34 the issue is of course when the when the  
2355 47:36 product has been transported at the  
2356 47:38 moment  
2357 47:39 and the hemp coopers actually now  
2358 47:41 launched a lobbying campaign to change  
2359 47:43 the law in that respect  
2360 47:44 so um you know obviously we really  
2361 47:47 appreciate the support of anybody out  
2362 47:49 there  
2363 47:49 to talk to the local qualifications i i  
2364

47:52 suppose the main message here is there  
47:54 are about 70 varieties that you can grow  
47:56 Alan has identified Fianola has been a  
47:57 suitable variety so you can legally grow  
47:59 it and you can get your hemp license as  
48:01 you can all over Europe  
48:02 and but you are restricted to varieties  
48:05 with less than 0.2 percent THC in  
48:06 Ireland at the moment  
48:08 and there's even an opportunity that  
48:09 this could change sorry Killian you want  
48:10 to come in there yeah yeah  
48:12 just even outside of that uh Barry we've  
48:14 done an awful lot of testing on the  
48:16 different varieties Finola  
48:17 vanilla fedora we have  
48:21 uh um new variety now again uh just a  
48:24 small bag of it again for testing but  
48:26 uh during our testing what we actually  
48:28 found out was that the Finola seed  
48:30 has higher qualities attributed  
48:33 after when we process it afterwards  
48:37 we have higher vitamin values we have  
48:39 higher omega values  
48:42 the turpentine are a lot higher  
48:45 you know you have a higher CBD count so  
48:48 for us as a processor the Finola seed  
48:50 is is the best the better of the lot at  
48:52 the moment of what we have worked with  
48:54 so far  
48:55 okay Finola yes we have in all and out  
48:58 this year we've done a little bit of it  
48:59 so we'll do some testing on that  
49:00 and again we know we'll be more uh  
49:02 knowledgeable for next year  
49:04 to see is there a better quality oil  
49:06 coming on the market or a better quality  
49:08 seed that will give us a better quality  
49:09 aisle which then in turn will give us a  
49:10 better quality finished product  
49:13 uh there's a question there thanks  
49:14 Killian there was a question there Alan  
49:16 on the price of him hearts  
49:20 yeah that's look i'm i'm looking into  
49:22 that in a minute and i saw that and i'll  
49:23 give him a text afterwards and if anyone  
49:26 else wants to know  
49:27 they can send me an email there and i'll  
49:29 get back to them  
49:30 okay so that's him hearts can you tell  
49:32 us what hem parts are  
49:35 basically what it is you're just so when  
49:37 you see the hemp seeds and you saw a few  
49:39 photographs over there



2365 49:40 you're basically just taking off the  
2366 49:41 outer shell and inside  
2367 49:43 then is a is a white seed  
2368 49:47 that's kind of a nutty flavor and that's  
2369 49:48 very high in uh  
2370 49:50 in protein and very high in the  
2371 49:52 different omegas as well so it's very  
2372 49:54 very healthy  
2373 49:55 a lot of vegans like it as well because  
2374 49:57 again they have problems trying to take  
2375 49:59 in  
2376 50:00 um a lot of protein and this is uh one  
2377 50:02 of the solutions  
2378 50:04 something you sprinkle on your cereals  
2379 50:05 in the morning is it exactly on your on  
2380 50:07 your porridge  
2381 50:08 okay uh question for Liam Liam if you're  
2382 50:12 using in self-building  
2383 50:13 is that a legitimate use for the license  
2384 50:17 for your oh yeah i mean as far as i know  
2385 50:21 now  
2386 50:21 Alan can clarify this but as part of  
2387 50:23 the license application you have to put  
2388 50:25 down what you're  
2389 50:26 using the who who you're going to give  
2390 50:28 the product to  
2391 50:29 if you make a product from it and if  
2392 50:32 you're  
2393 50:33 if you're using it for for building uh  
2394 50:35 for your own purpose that's a legitimate  
2395 50:37 use you probably just put it down as  
2396 50:39 research  
2397 50:40 or something like that for certain  
2398 50:41 development but um yeah that shouldn't  
2399 50:43 be an issue at all  
2400 50:45 uh question there uh other than the the  
2401 50:48 high protein content what else  
2402 50:50 is it good for uh based on the hard  
2403 50:52 graph that's  
2404 50:53 involved in getting there a question  
2405 50:55 from identical there maybe  
2406 50:56 that's for uh Alan or from maybe an eve  
2407 51:00 you can  
2408 51:00 answer that well i suppose again you're  
2409 51:04 you're you're back to your  
2410 51:05 your finished products like we make lots  
2411 51:06 of uh different products here from  
2412 51:10 you know bands that you know give you a  
2413 51:12 good relief  
2414 51:13 joint pain so it can be used like the  
2415 51:15 product can be used for so many  
2416 51:17 different things creams  
2417 51:20 you know again for skin issues um  
2418 51:23 you know there are so many different  
2419

51:25 uses for this  
51:26 uh uh versatile product yeah  
51:30 and of course everything everything that  
51:31 Liam was talking about there from the  
51:32 use of the shivs and the herds  
51:34 in the building a construction industry  
51:35 as well absolutely  
51:37 another question did you find it  
51:38 difficult to find a contract with an end  
51:40 user  
51:42 so Alan i suppose that maybe that goes  
51:44 in terms of your situation you're  
51:45 applying for a license  
51:46 you have to demonstrate to the HPRA that  
51:49 what your end user is going to be  
51:51 and where it's going to be did you find  
51:52 it difficult to get any contracts there  
51:54 um well look i suppose i was able to get  
51:56 a letter from um i think it was from  
51:58 Lynwood's last year to say that  
52:00 they take it so um the whole thing  
52:03 people have to be very careful of is it  
52:06 is  
52:06 quite easy to get a letter um from  
52:09 somebody to say that  
52:10 they'll take us but that's not a  
52:12 contract  
52:13 some people you might get a letter from  
52:15 just so they say right you can grow it  
52:17 now  
52:18 but at the end of the day you have to  
52:19 make sure that you have your market  
52:21 sorted before you grow us  
52:23 because if you don't and it comes and  
52:24 you harvest this and you've got nowhere  
52:26 to go with your product  
52:27 if it's the leaf the or the flour or the  
52:29 seed or whatever it is  
52:31 then you're in trouble also i suppose  
52:33 you really want to see exactly what  
52:35 specification  
52:37 that the requirements are to meet the  
52:39 specification in terms of  
52:40 what moisture content will it need to be  
52:42 what colour it'll need to be  
52:43 what screenings are allowed in us so  
52:46 there is a last i think that needs to be  
52:48 done  
52:48 it's in this infancy here so um a lot of  
52:51 these things need to be tightened up  
52:52 tractability etc etc everything needs  
52:54 to be kind of tightened up  
52:56 um in relation to that um so yeah but  
52:58 look it's trying to get

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2420 53:00 trying to get it's easy enough to get uh  
 2421 53:02 someone to give you a letter  
 2422 53:04 to say that they take it that's another  
 2423 53:06 thing actually  
 2424 53:07 getting a contract with the price okay  
 2425 53:10 Alan thanks for that  
 2426 53:11 question for you has any one of you  
 2427 53:13 received state funding to help develop  
 2428 53:15 the process of hemp cultivation or  
 2429 53:16 processing  
 2430 53:18 no yes sorry volume  
 2431 53:22 yeah i was going to probably say the  
 2432 53:24 same thing members of the hemp  
 2433 53:25 cooperative have  
 2434 53:27 um applied and successfully got funding  
 2435 53:29 for for various aspects Barry  
 2436 53:32 okay so wherever that funding come from  
 2437 53:34 is the department of  
 2438 53:35 uh trade and enterprise or department of  
 2439 53:37uh leader funding or where is it coming  
 2440 53:39 from  
 2441 53:41 yeah so um i might take this very um  
 2442 53:44 so basically i applied for a few  
 2443 53:46 different things first of all um  
 2444 53:48 there was grants going for a website  
 2445 53:51 there recently  
 2446 53:52 and um i applied i think with enterprise  
 2447 53:54 Ireland  
 2448 53:55 i went through all the hoops and even  
 2449 53:57 got my letter of offer  
 2450 53:58 got a phone call the next day saying you  
 2451 54:01 have to rescind us because  
 2452 54:02 you've mentioned the word hemp so um  
 2453 54:05 i wasn't able to get funding from them  
 2454 54:07 in the end for anything so i went to  
 2455 54:09 leader and  
 2456 54:10 i got um a grant for that seed cleaner  
 2457 54:14 you saw  
 2458 54:14 um i also got a grant for a little a  
 2459 54:16 small little garden shed that i can do  
 2460 54:18 some processing in  
 2461 54:19 and also um uh  
 2462 54:24 juicer if i wanted a cold breast if i  
 2463 54:26 wanted this so  
 2464 54:27 i did give them too later thanks for the  
 2465 54:29 Helen a question for remedy helter  
 2466 54:31 that's for you Killian  
 2467 54:32 can you speak to about the testing of  
 2468 54:34 the soil when it comes to CBD oil  
 2469 54:37 do you see soil grown product holding a  
 2470 54:39 high level of toxins  
 2471 54:42 uh well no because we test far we test  
 2472 54:44 the soil  
 2473 54:45 and we also test a product for those  
 2474

54:47 toxins we test them for heavy metals  
 54:49 uh we test them for anaplexations we  
 54:51 test them for  
 54:56 fairly confident  
 54:57 across the board it's more so what the  
 55:00 i suppose the plant will take out of the  
 55:02 field  
 55:03 that you need to prepare for next year  
 55:05 but by leaving the roots back in the  
 55:06 side like the route is full of goodness  
 55:08 as well  
 55:08 well then you're leaving back in the  
 55:10 field as well yeah  
 55:14 Alan and you know Ed Handbridge who you  
 55:15 mentioned earlier on there are organic  
 55:17 growers and they  
 55:18 is it only organic material you take or  
 55:20 do you take it from conventional sources  
 55:22 as well  
 55:22 really organic yeah we do a lot of stuff  
 55:24 in the equine industry as well we can  
 55:26 use conventional and that but  
 55:27 for the for the human side it's all  
 55:29 organic okay  
 55:32 question here have you any information  
 55:34 on decartification please can farmers  
 55:35 decartificate after retting in the field  
 55:38 i think we've covered that already Liam  
 55:40 and Alan so we will skip out for that  
 55:43 um to Killian i imported 10 hemp oil  
 55:46 with 90  
 55:47 rapeseed oil for the equine industry and  
 55:49 it went very well with amazing results  
 55:50 for customers including giving it to  
 55:52 highly  
 55:52 strong stallions other horses dogs with  
 55:55 stiffness  
 55:56 currently i sell hemp shivs as animal  
 55:58 bedding  
 55:59 and is a great resort uh result also  
 56:02 can't get the oil anymore from  
 56:03 Latvia does that make any sense to you  
 56:06 it's no problem he can make contact with  
 56:08 us here and y'all and we can  
 56:09 make it for him producer farmer we can  
 56:10 put him on one of the equine products  
 56:12 that we make here already  
 56:13 okay it'll be exactly the same thing  
 56:16 okay  
 56:16 uh question here Killian in relation to  
 56:18 your production in the market how has it  
 56:20 grown for you each year as someone  
 56:23 thinking of getting into growing him to  
 56:24 diversify farmland to use

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2475 56:26 are there opportunities for um  
2476 56:29 recurrency contracts  
2477 56:31 obviously weather dependent for the  
2478 56:33 growers sorry i suppose that's a general  
2479 56:35 question  
2480 56:36 about the opportunity i suppose you're  
2481 56:39 back to what Alan  
2482 56:40 Allen Jackson was saying there you know  
2483 56:43 you know if you have  
2484 56:44 professional growers and they want to  
2485 56:46 use it as a rotational crop  
2486 56:47 it's perfect but if you have a farmer  
2487 56:50 that  
2488 56:50 is you know milking cows and he wants to  
2489 56:52 do 10 acres of hemp  
2490 56:54 uh and there's nobody around them doing  
2491 56:56 another 10 acres of him and there's no  
2492 56:58 uh um he doesn't have his own equipment  
2493 57:01 well it's going to be very difficult  
2494 57:03 you know what i mean so they should  
2495 57:04 steer away from that if they want to get  
2496 57:05 involved in him  
2497 57:06 they make contact with the likes of Alan  
2498 57:08 Jackson or myself or somebody else  
2499 57:10 that's growing  
2500 57:10 and you buy the actual raw material and  
2501 57:12 you take it to the next level where the  
2502 57:14 real money is in it  
2503 57:15 okay there's a question there if there's  
2504 57:17 no cannabinoids in the seed  
2505 57:19 how do they make CBD oil who says  
2506 57:22 there's no cannabinoids in the seed  
2507 57:23 well that's a question that came in so i  
2508 57:25 don't know there has to be kind of i  
2509 57:27 think he kind of up to  
2510 57:28 two 0.2 percent gac so i think that was  
2511 57:30 answered already  
2512 57:31 um does any of you want to make any  
2513 57:33 other comment on that it's just that  
2514 57:34 there is  
2515 57:35 you can have up to 92 tac within the  
2516 57:38 seed  
2517 57:39 that that you're using yeah like  
2518 57:42 you know we do full uh CBD or cannabis  
2519 57:45 dial testing on the actual seed so you  
2520 57:48 have CBD you have cbc  
2521 57:50 you have cbg you have  
2522 57:53 c b d a and c b g a you know yeah i i i  
2523 57:57 suppose just to go back on that point  
2524 57:59 there about the point two percent CBD  
2525 58:01 you're allowed to have it  
2526 58:02 within the c up to 9.2 percent CBD and  
2527 58:04 this may be a question for  
2528 58:05 phd Liam as well but there is  
2529  
58:09 the the hemp derived food products can't  
58:12 have any trace amount  
58:13 of of uh of THC isn't that correct  
58:18 uh yes that is correct but again the  
58:21 movement on that again you know what i  
58:22 mean you know it's a very gray area  
58:24 because you know what is a trace  
58:26 like it still comes from the hemp plant  
58:29 okay so it's like the dna uh it still  
58:32 has the dna and it still will have  
58:34 many skewed traces uh like we've done  
58:37 the testing on it here  
58:38 uh um we've done it with uh ghg  
58:41 analytics down Watford  
58:42 and you know the 0.2 of one percent was  
58:46 the allowed amount  
58:47 at the allowed amount we are testing and  
58:50 we can't get it at  
58:51 a hundred times below that we still  
58:53 can't get a trace of it  
58:54 okay i know there's a bit of an issue in  
58:57 the law in relation to that and we won't  
58:58 go into the details of it here now but  
59:00 maybe if anybody wants to make contact  
59:02 with the hemp cooperative afterwards you  
59:03 can  
59:04 discuss that issue with them and all  
59:07 three of you are involved in that  
59:09 is there a market for hemp which is not  
59:10 produced organically  
59:12 question here  
59:15 yes i believe there is um you know that  
59:18 there is there is a bigger wider market  
59:20 out there than just the food industry  
59:22 you have  
59:23 uh um you have uh uh from our side  
59:26 you have the equine industry you have  
59:28 the pet industry uh  
59:30 you have the animal feed industry yeah  
59:32 yeah and support  
59:34 the construction industry as well of  
59:35 course i have to we're nearly at the end  
59:37 of our time guys i really have to  
59:39 uh question for Killian where your  
59:42 startup costs high  
59:44 i suppose they were because you know we  
59:46 started back in 2000 and  
59:48 i suppose that's true was we know it was  
59:49 2016 we really started looking into  
59:52 CBD and it was more so because we were  
59:54 testing products that were on the market  
59:56 and we were realising that you know a  
59:58 lot of people were just being fooled  
59:59 because 60:00 there was absolutely no CBD inside a

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2530 lot  
2531 60:02 of these products  
2532 60:03 uh so that was what gave us the  
2533 60:04 initiative to turn around and say okay  
2534 60:06 let's  
2535 60:06 you know grow an Irish product and  
2536 60:08 produce a fully  
2537 60:09 uh intuit uh  
2538 60:13 uh product uh here in Ireland uh and  
2539 60:16 stand over that product  
2540 60:17 uh by having the test results to back it  
2541 60:19 up okay folks  
2542 60:21 we really have so many questions coming  
2543 60:22 in i can't get to them all unfortunately  
2544 60:24 and uh  
2545 60:25 but we will get back to everybody who  
2546 60:26 sent in a question and i will send out  
2547 60:28 the questions to each of you as  
2548 60:29 panelists and maybe we can  
2549 60:30 get back to everyone individually that  
2550 60:32 way one quick question for you Alan  
2551 60:33 because a lot of queries are coming  
2552 60:35 about the soil type  
2553 60:36 that's required for him and we look on a  
2554 60:38 pt  
2555 60:39 pt land my impression is it wouldn't go  
2556 60:41 on pt land that well it would be  
2557 60:43 challenged especially with  
2558 60:44 in terms of weed control but i'll let  
2559 60:46 you answer it from a i suppose a  
2560 60:48 practitioner's  
2561 60:48 perspective yeah i suppose look it's the  
2562 60:50 same thing and i'd say the biggest  
2563 60:53 you try to bring a combine harvester  
2564 60:55 into the piece you saw it in September  
2565 60:56 you could be in big trouble too  
2566 60:58 so um that's one of the major problems  
2567 61:01 and the better the soil the better it'll  
2568 61:02 grow  
2569  
2570  
2571  
2572  
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2574  
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