
TRANSCRIPT OF PROCEEDINGS

**ENVIRONMENTAL PROTECTION AUTHORITY
HEARING**

**APP203816 – Method 240 SL Herbicide
Hazardous Substances, Notified, Category C application**

**VIRTUAL HEARING
on 18 May 2022**

DECISION-MAKING COMMITTEE:
Dr Derek Belton (Chair)
Dr Stephen Tredwell
Dr Andrea Byrom

Hearing Proceedings

Day 01 Wednesday 18 May 2022

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[10.00 am]

5 CHAIR: All right, good morning, everyone. Welcome to our hearing on Method 240 SL Herbicide. I think we've got a pretty full list of participants here and I'm looking at Marree in particular to check. We have Te Mauri to give us our opening mihi and karakia.

MR APIATA: Kia ora tātou, can you all hear me?

10 CHAIR: I can hear you.

MR LAPAGE: We are just waiting for the recorder.

15 CHAIR: Yes, no worries.

MIHI WHAKATU

MR APIATA: (Māori content – will be inserted when script finalised)

20 Just I suppose opening our proceedings with a karakia and acknowledgement to everybody who is joining us today in this hearing on this product, and so it is just my pleasure to welcome to everybody and hope we get off to a good start with our mahi today. Good to see some familiar faces on there as well. (Māori content – will be inserted when script finalised). So thank you.

INTRODUCTION

30 CHAIR: Kia ora. Thank you, Te Mauri. Okay, so now I need to look at these screens here and go through the checklist of the things that we need to do to get this hearing underway. I have a list of instructions here, but first of all let me introduce myself. Despite what the screen is probably saying to you, I am Derek Belton, my wife is Keiry and I'm using her iPad for the Zoom and I have other board beside me.

35 Just by way of brief background, I have been on the EPA HSNO Committee now for coming up six years. I am originally a veterinarian, worked in biosecurity and food safety for quite a long time with what was then MAF, now MPI. Had a regulator's role in there and then moved to the World Organisation for Animal Health for four years in 40 2012 and returned from there in 2016.

[10.05 am]

45 With me today we have Dr Andrea Bryom and Dr Stephen Tredwell and I will just ask them to give a very brief introduction of their selves as well too, please.

DR BYROM: Okay, I will go. Can everybody hear me okay? Kia ora kotou.

(Māori content – will be inserted when script finalised).

5 Kia ora, everybody, I am Andrea, I am on the board of the EPA and the
Chair of the HSNO Committee. I have a background in science and
research, specifically the impacts of non-native species, invasive
10 mammal predators and pests on New Zealand's native flora and fauna
and natural ecosystems. So kia ora, everyone, nice to meet you.
Looking forward to today.

DR TREDWELL: Mōrena, I'm Stephen Tredwell, I've been on the HSNO Committee now
for almost two years, so I am one of the new members of the team. My
15 background is mainly with industrial chemistry, particularly in the
polymer materials part of things and I have had a substantial
background in chemical hazards, also compliance and risk assessment.

CHAIR: Thank you, Stephen. Now, let me just go through this checklist so we
are all on the same page here. You have probably got this but we will
20 just be sure. As I have already said, we are here to consider the
application for APP203816, Method 240 SL Herbicide, to gain
approval for import or manufacture for release.

25 The hearing is specifically to address this application. The HSNO Act
does not permit the Committee to make decisions about other
substances that are currently approved or not as part of this process.
The Committee shall consider and decide any application other than
30 the application which is the subject of a ministerial direction under
section 68 of the HSNO Act and shall have in relation to any such
consideration and decision on any matter the same immunities and
privileges as are possessed by a District Court Judge.

35 The object of our hearing is for the Decision-making Committee to be
as informed as possible on the matter in which we are charged with
making a decision. The way proceedings will run is we will hear firstly
from the applicant, the EPA staff and then from the submitters who
have indicated that they wish to be heard.

40 After the submitters then the applicant will have the right of reply and
the Committee will have final questions, at which stage the hearing will
be adjourned for consideration by the Committee. I ask that you please
speak clearly for audio recording. The whole proceedings are recorded
and it would be helpful for the audio and transcription services if you
45 could identify yourselves each time that you speak, please.

The housekeeping items: all cell phones are to be turned off or on silent
and computers are to be on mute at all times if you are not presenting.
I also need to ask if there are any media present? Typically not. I do

not see anyone waving hands or what have you, so we will take that as they are not.

5 Now, I think I am ready to ask the applicant to introduce themselves and their team to the people that are gathered here today, please. Who is leading for the applicant on this, please?

MS FITZGERALD: That is me, Margaret Fitzgerald from Bayer. Can you hear me?

10 CHAIR: Very well, thanks, Margaret.

MS FITZGERALD: Thanks. There are five of us representing Bayer today. My name is Margaret Fitzgerald, I am the regulatory affairs manager for Australia and New Zealand for Bayer CropScience in the environmental science business. Paul, would you like to introduce yourself.

15 MR CRACK: Yes, thanks, Margaret. My name is Paul Crack, I'm the segment manager for vegetation management in Australia and New Zealand. I have been with Bayer for approximately eight years and joined the Environmental Science Division about three years ago. We are working in industrial vegetation management and native restoration here in Australia.

[10.10 am]

25 MR KAAPRO: Good morning, my name's Jyri Kaapro, I am the senior development specialist with Bayer Environment Science for Australia and New Zealand and about 20 years with the company.

30 MR NESPECA: Hello, my name is Matt Nespeca and I am the global head of digital business transformation for Bayer Environmental Science and I have worked for Environmental Science for 11 years. I look forward to the meeting.

35 MR TINALEVU: My name is Sekove Tinalevu, I am the regulatory affairs manager for the CropScience Division based here in Auckland, New Zealand. Thank you.

40 CHAIR: Okay, thank you very much to the Bayer team. Now I will ask the EPA team if they could introduce themselves too, please?

MR LAPAGE: I will start with myself, so I am Regis Lapage, I am a senior advisor for our hazardous substances application team. Today I will be presenting the EPA evaluation with a few of my colleagues so I will let them introduce themselves. Maybe, Michael, you would like to go next?

45 MR BERARDOZZI: Sure, kia ora koutou katoa, my name's Michael Berardozzi, I'm principal advisor at the EPA, been with the EPA for almost five years

now and my background is in registration affairs for pesticide registration.

5 DR SUDDABY: Hi, everyone, I'm Dr Laura Suddaby, I am a senior ecotoxicologist with ten years' experience in the field and I have been working at the EPA for five and a half years.

MR APIATA: (Māori content – will be inserted when script finalised).

10 My name is Te Mauri Apiata, I am a senior advisor within the Kaupapa Kura Taiao Team, now our Māori policies and operations team here at the EPA and I've been working here for about a year and half now, so kia ora tātou.

15 MS MCKAY: Kia ora, good morning, everyone. My name is Amanda McKay. I am the hazardous substances applications team leader. I've been with the EPA a short eight months. My background prior to this was largely in laboratories but including pesticide and veterinary medicines residue testing.

20 MR LAPAGE: Okay, you can't see her on the screen but Marree Quinn is with us also today and she's acting as a tech support in the background. So back to you, Derek.

25 CHAIR: Thank you, Regis. Okay, next we're asking for submitters to introduce themselves, please. Have we got submitters here or are they coming in later? Just having a quick look down here. Maybe they're all coming in later, so we'll skip that bit and deal with that bit.

30 MS QUINN: Sorry, Dr Belton, Don is there, if he would like to introduce himself, and Mary Hobbs will call in later.

CHAIR: Okay. Don?

35 MR MACLEOD: Yes, good morning. Don MacLeod, representing Apiculture NZ, science and research focus group. Barry Foster may or may not be here after lunch, we'll just wait and see. He's got some conflicts for today.

40 CHAIR: Thank you very much, Don. Right, just a few more points before we lead off with the submitter's opening presentation. I more or less covered this before, but at the end of each person's presentation we'll have questions of clarification or explanation. I should just highlight that we don't cross-examine the parties in these hearings. They are about providing us with the information that you wish to provide us and the parties here getting clarification on that.

45

[10.15 am]

5 The other thing I would say is that the decision-making team have read
all of the documents provided so far, so there is no need to repeat the
content of those. Rather we want you to just use your opportunity to
present the key points that you want us to be sure that we've understood.
10 I think with that, I can now pass the floor over to the Bayer team,
whoever is going to lead from there - maybe it's you, Margaret - but
whoever it is, but take us forward to the programme. I think you've all
got the programme in front of you. It's a draft outline of time. We'll
take the time that we need, is what I'm going to say. We'll try and stick
with that as best we can but I think we've got plenty of time for all of
the people speaking today to make their presentations and to have
whatever discussion we require usefully after that. We can be relaxed
about that and we can probably provide some comfort breaks as we go
as well.

15 With that, I'll hand over to the Bayer team, thanks.

APPLICANT PRESENTATION

20 MARGARET FITZGERALD PRESENTING

MS FITZGERALD: Thank you, Chair. I'd like to share my screen with our presentation.
Could you confirm that you can see the screen, please?

25 CHAIR: Yes, we can see the screen, thanks, Margaret.

MS FITZGERALD: Great. Sorry, that was the just opening slide. Good morning to the
EPA Decision-making Committee, EPA staff, submitters and all
30 present. Thank you for the opportunity to present the product Method
240 SL herbicide at this hearing. The five of us in the Bayer team will
each be doing a part of this presentation. In the agenda we're going to
cover who we are - Mathew is going to do that - what we do in the
environmental science business and what we do in vegetation
management. That will give a global perspective on the development
35 of Method in the US and Canada.

40 Paul will address the economic impact of invasive species on
ecosystems in New Zealand and will also outline the benefits of
Method. I will give an introduction to the product and then Jyri will
show some results from trials that we've done to evaluate Method in
New Zealand and Australia and then we'll summarise our proposal. I'll
be managing the slides and I'll now ask Matt Nespeca to continue.
Thank you, Matt.

45 MATT NESPECA PRESENTING

MR NESPECA: Thank you, Margaret. As I mentioned before, my name is Matt
Nespeca and I'm the global head of business, transformation and

5 sustainability for Bayer Environmental Science. Bayer is a global life sciences company that is focused on healthcare and nutrition. We're engaged on global challenges dealing with a growing and ageing population. We have three divisions: crop science, pharmaceuticals and consumer health. Our environmental science business is based within our crop science division and we are represented across our business in 83 different countries, and innovation is at the core of our company culture. Research and development of new solutions is central to our mission.

10 In Environmental Science we operate in several important segments, including turf and ornament, pest management, vector control, forestry and vegetation management, which also includes range and pasture. In vegetation management we're focused on the control and prevention of unwanted vegetation that threatens people, infrastructure and natural resources. Globally we are very focused on native restoration, including native forest restoration solutions in Brazil and well as native rangeland solutions in the US and Canada.

20 **[10.20 am]**

25 We are very passionate about the potential to solve non-native invasive conifer problems in New Zealand. I've worked for environmental science since 2011 and I was the US vegetation business manager from 2011 until 2019. I was actively involved in the acquisition of the DuPont Land Management business, which we completed in December 2014. Our main reason for acquiring the DuPont Land Management business was aminocyclopyrachlor, also known as ACP. My US business began launching and incorporating ACP products and solutions at that time.

35 When we acquired ACP we were fully aware of the unfortunate Imprelis turf incidences, which occurred much earlier, in 2011. This was a very public situation. In lawn, landscape and golf environments, ACP was a bad choice and if any company was to utilise a root-active pyridine or similar chemistry in highly manicured landscape environments, the same outcome would likely occur.

40 In vegetation management we were attracted to acquire ACP because it is a highly effective brush-selected weeding and in bare-ground use applications. It provides superior brush performance due to both foliar and root uptake. It has very low use rate compared to similar active ingredients. It is highly effective on invasive brush such as non-native conifers, mesquite and many other brush species that threaten natural resources and infrastructure. Since we acquired ACP in the US we have built a highly stewardship-centric approach with a very focused team of world-class experts. We have used label restrictions, customer

education and customer communications to keep the product in safe-use environments.

5 Since we began selling, marketing and supporting ACP in the US market in 2015, which is seven years ago, we have not had any major stewardship incidences and we have continued to thoughtfully expand the use of ACP, starting with industrial vegetation management but then into rangeland brush. We have additional desires to expand ACP use to tackle some of the biggest invasion non-native plant problems that re threatening our rich biodiverse landscapes. Today we are now using ACP to restore Canadian rangelands in collaboration with conservation-focused partners, with similar highly effective results.

15 We are really excited to be in this position to play a role in helping you protect your rich New Zealand ecosystems and heritage. From the US I want to thank you again for allowing me the time to talk. At this point I will hand it over to Paul.

20 PAUL CRACK PRESENTING

MR CRACK: Thanks. Paul Crack, segment manager for vegetation management in Australia and New Zealand. I want to talk to you guys now a little bit about the economic impact of invasive species on ecosystems in New Zealand.

25 In a 2021 report, which was titled the Review of Weed Management Programmes in Regional Pest Management Plans, it was found from a survey of approximately 16 councils across the country that they spent upwards of 80 per cent of their total weed control budget on controlling weeds that were affecting biodiversity only. Clayson Howell from DOC lists 328 environmental weeds targeted for management on the Department of Conservation estate. This is a significant problem and highlights the extent and economic impact of invasive weeds in New Zealand.

35 Planted in the right place, introduced trees such as pines and firs can provide timber, store carbon, decrease erosion and provide shelter and shade for stock but in the wrong place these trees can become a major threat to New Zealand's ecosystems, land and farms. Conifer seeds can be blown many kilometres by wind and have spread into areas such as farmland, the high country, including above the native bush line, and public conservation land. Seedlings quickly infest an area and if they aren't removed can grow into dense, impenetrable wilding conifer forests. They often grown in mixed species groups and the timber has either minimal or no value or cost far too much to remove because of access problems and density.

By the early 2000s many individuals and groups saw the spread of wilding seedlings from conifer plantings as a serious problem and by 2016 this spread had affected almost 2 million hectares in New Zealand.

5

[10.25 am]

10

A 2018 report by the local research group, Sapere, found that the impact of wilding conifers to the New Zealand economy to be far greater than first thought. The total impact was estimated to reach approximately \$5.3 billion over the long term, if nothing was done to control wilding conifers. However a cost benefit ratio of 38 to 1 was identified with an overall positive impact of NZ\$6.5 billion with an intermediate control approach.

15

20

Large stands of conifers have the effect of reducing and stopping surface water run-off as well as extracting high volumes of groundwater and reducing aquifer recharge in water-sensitive catchments. Where pasture land becomes covered in wilding conifers this reduction in annual water yield has been shown to range upwards of 80 per cent. With lower river flows and less aquifer recharge the impact on the economy through the loss of agricultural production accounts for almost two-thirds of the total estimated impact. Hydroelectric power generation accounts for approximately 57 per cent of all power produced in New Zealand; a reduced water flow in the river systems has significant impacts on this and puts increased pressure on other sources of power generation.

25

30

Wilding conifer forests don't have firebreaks or easy water access and this makes fires difficult to manage and can quickly spread into neighbouring areas. It can even be a big challenge just accessing the remote alpine areas that conifers often colonise. The estimated impacts to the community and environment from bushfires is to be approximately NZ\$654 million and up to \$3 million in losses of jobs and earnings.

35

40

These trees can quickly colonise and change ecosystems where there is no native forest. This can be above the bush line, in mineral belts and in tussock grasslands, and once there they out-compete other species. Some of their effects include forming a closed canopy of shade and acidifying the soil and evicting native plant and animal species. But overall the biggest impact that they do have is changing the distinctive look and conservation values of the landscape.

45

That's my piece on the economic impacts and I'll hand over to Margaret Fitzgerald now to talk about Method.

MARGARET FITZGERALD PRESENTING

MS FITZGERALD: Thank you, Paul. I'm just going to give a brief profile of the product Method. Method is a soluble concentrated formulation which contains
5 240 grams per litre of aminocyclopyrachlor. The product is a water-based formulation.

10 Aminocyclopyrachlor was first registered by DuPont in the USA in 2010. As Matt has explained, the active ingredient was licensed to Bayer in 2014 in North America, Australia and New Zealand. Aminocyclopyrachlor is a new active ingredient to New Zealand. It is a systemic herbicide and acts as a synthetic auxin. The active is herbicide group 4, which is the same group as other woody weed herbicides, such as triclopyr.

15 The proposed use in New Zealand is for vegetation management with the focus on control of wilding conifers in natural areas. The photo here shows the type of situation where wilding conifers can take over the natural landscape.

20 The product has a very good safety profile for the end user. The product is exempt from poison scheduling in Australia due to its low toxicity and is not classified as a hazardous substance by WorkSafe in New Zealand. The classification proposed for the product in New
25 Zealand is hazardous to soil organisms.

30 In terms of global registration status. As mentioned, the product is registered in the USA and Canada as the solo product method, which contains aminocyclopyrachlor alone, and also there are various mixtures which have been developed for vegetation management. In Australia we applied for registration of Method in November 2020 and the due date for finalisation of that registration is July this year.

35 What we are requesting in terms of a label; we are requesting use of Method for use in conservation land, parks and unimproved pasture for control of wilding conifers by aerial or ground application and for control of other invasive woody and broadleaf weeds by ground individual plant treatment. We are requesting a maximum broadcast rate of 1.3 litres per hectare or 312 grams of active per hectare.

40 Use of the product on industrial sites such as along roadways, railways and utility rights of way was also proposed in our application however it is not a key area of focus and we have proposed a label amendment to the EPA to remove this use pattern.

45

[10.30 am]

For best results on wilding conifers we recommend use of methylated seed oil spray adjuvant to improve penetration of the spray.

5 As Matt mentioned, Bayer has a stewardship-centric approach and there will be product stewardship measures as well as appropriate labelling to establish safe use.

10 In relation to protection of pollinators, it was noted in the EPA Staff Report that acute risks are below the level of concern. No chronic data was provided but given the nature of the substance, being a herbicide, one application only, and with proposed control to limit application to plants not in flower, it is estimated that the risks of the substance, including use with surfactants will be limited.

15 So there will be an additional bee protection and pollinated protection wording on the label and also a preapplication assessment of the treatment area for broadcast applications has been recommended to mitigate risks to non-target arthropods. If you have a buffer and exclusion zone an application direction will protect sensitive species.

20 So with that I'll hand back to Paul to go through some of the benefits offered by Method. Thanks, Paul.

25 PAUL CRACK PRESENTING

MR CRACK: Thanks, Margaret. As Margaret said, Method brings a new molecule to the invasive weeds fight in New Zealand and it offers excellent broad spectrum weed control at a very much reduced rate to current standards. At the 1.3 litre per hectare rate that we've proposed, it is 312 grams of active ingredient per hectare. So when compared to the current standards where upwards of 25 kilograms of active ingredient is commonly used, this is a massive reduction in herbicide required to do the same job. Not only is this an advantage from the environmental impact point of view, it also offers a significant gain in efficiency and handling when compared to current practices.

35 We've been collaborating with local DOC authorities and the MPI for a number of years now and have established many trials in wilding conifers, of which Jyri will shortly detail.

40 These trials include foliar and basal IPT treatments and the trials have shown excellent selectivity by killing off the target plants and allowing native grasses and tussocks beneath these trees to be released. As you can see in that image on the photo there's quite a lot of grasses and things coming up underneath those treated trees.

45

In addition to these wilding trials, we have also conducted efficacy work on other woody weeds like gorse and broom, etc, which have all shown excellent results so far.

5 Some other important weed species which have significant impacts include blackberry, which left unchecked can become a major weed spreading easily, forming dense impenetrable thickets, commonly spread by birds. It smothers most low-growing species, inhibiting the
10 establishment of native plant seedlings. Gorse and broom are another very important invasive weed species to New Zealand and are very widespread and scattered across land throughout all of New Zealand. Both of these plants can form dense stands that prevent stock from grazing these invested areas, prevent the germination of native plants and provide protection for vermin.

15 Seeds of these weeds may survive in the soil for more than 50 years and gorse, broom and blackberry are significant agricultural pests but can also cause problems in conservation land, forestry, braided rivers and protected natural areas.

20 So to conclude, the potential benefits from the proposed use of Method in land management programmes to control invasive weed species are significant. Method is a water-based formulation, has a favourable toxicity profile and is used at significantly lower rates when compared
25 to other chemical treatment options currently available.

30 That's just a brief summary of the benefits that we see for Method to New Zealand and I'll hand back to Jyri now to talk about some of the trial results.

JYRI KAAPRO PRESENTING

MR KAAPRO: Thanks, Paul. This is Jyri Kaapro. Can I have the next slide please?
35 So to date, we've done trials in New Zealand with Method since 2018. These trials have been conducted by the Department of Conservation as well as independent commercial contractors. Our first trial started - the first trial that you can see on the screen now, on Pinus contorta, on the South Island - we applied the product during the summer of 2018. In the photograph you can see November 2019.

[10.35 am]

40
45 This was foliar application, with Method applied at 1.35 litres a hectare, and as you'll see in the pine examples as well, we're incorporating Method, methylated seed oil. As an adjuvant, the product used in this case was a product called Hasten, and you can see the dead foliar lower limbs on the pine tree there and surrounded by grasses, which have come in over that period between the application and the photograph.

Obviously at the start of the trial there was no grasses present due to the competition from the pine trees.

5 Next slide please. This trial was conducted on the North Island with an application in 2018 and the photograph taken approximately 14 months later. This is a basal bark application of Method and again it's the concentration there, 10 per cent Method with 10 per cent methylated seed oil mixed in water. You can see the surrounding vegetation isn't affected. We have species like turpentine bush, coral lichen and silver tussock present at this site.

10 In this trial conducted in 2018, Method was applied as a foliar application. You can see a dead pine tree in the middle of the photograph there. Again, the mix was the same as in the previous slide and the tree was treated with approximately 250 ml of solution and again the surrounding vegetation wasn't affected and the similar species to the previous side, and in the background you can see a commercial pine plantation, approximately 50 metres away, and there was no affects observed on any other pine trees in that plantation/

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20 We've also done Pine Wilding trials in Australia, this time on *Pinus radiata*, so a different species. This trial here was a foliar treatment done in 2018 and the three photographs represent three different times over the course of the trial. The first one in the top left-hand corner was at one-month application where you start to see the treatment effects occurring. In the top right-hand corner at five months after application and in the bottom left-hand corner at 11 months we had dead trees, which were falling over. Method was applied at a concentration of 500 ml in 100 litres of water and again with a methylated seed oil.

25 The other two weeds, which we have done trial work on in New Zealand have been gorse and broom. I'm showing you a couple of examples from Australian trials. Both of these trials were done in Tasmania, so a similar climate to many areas of New Zealand. In this photograph you can see here the gorse trial was sprayed in February 2017 with photographs taken approximately six months later. A foliar application and we used a whole range of rates from 300 up to 750 ml in 100 litres of water using methylated seed oil again. Like in New Zealand, we're getting sort of 95 per cent, 100 per cent control on gorse. On the left-hand side of that photograph you can see some untreated plants.

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45 The final trial is a broom trial, again done in Tasmania. But the results are virtually identical to our New Zealand trials. In this trial Method is applied in March 2019, photograph taken 12 months later. The particular tree I'm showing you in the right-hand photograph was treated at 500 ml per 100 litres of water and we're getting 100 per cent

control on broom species. This is English broom or Scotch broom, common pest species in both countries.

With that, I will hand back to Margaret. Thank you.

5

[10.40 am]

MS FITZGERALD: Thanks, Jyri. So to summarise our presentation, wilding conifers and other invasive species are changing the ecological and visual character of the New Zealand landscape and their management is important. Method will bring significant benefits to the management of wilding conifers. The product is used at a low application rate relative to current options, it has a favourable toxicology profile. Environmental risks can be managed. With some individual plant treatments it is negligible. Risks from broadcast application methods can be managed by the proposed controls, labelling and stewardship. The Māori impact assessment was supportive of its use. So we respectfully request approval of this application.

10

15

20

Just before finishing, I realise that I forgot to ask Sekove to introduce us at the beginning. I am very sorry about that. Sekove, I don't know if you would like to say something now?

25

MR TINALEVU: No, I think it's okay, Margaret.

MS FITZGERALD: Okay, sorry about that. Thank you.

CHAIR:

30

Thank you, Margaret and team for that presentation. That has been comprehensive and pretty much on time. So first of all I'll hand over to Dr Byrom for any questions from you please, Andrea.

QUESTIONS

DR BYROM: Okay, thank you very much for the presentation, team, and for the comprehensive material that was provided to us. It's very much appreciated. I had a couple of questions about the gorse and broom. There's a potential recommendation in the material we've been provided around not applying this product when gorse and broom are flowering to mitigate impacts on honey bees in particular. However, I would have thought that the growing season is quite long for those particular plants and that the potential for mitigating those impacts would be difficult. I just wondered if you had any comment on that.

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The other comment I noticed in your presentation just now is that you mention that seeds of those plants can survive for up to 50 years in the soil. So I guess the question is what about re-emergence and, given the issues that we are potentially looking at around persistence in soil, I guess you're sort of hoping that that will mitigate any of the re-

emergence issues. But, on the other hand, we are then dealing with potential impacts on non-target species. So I just wonder if you could address those gorse and broom questions together as a sort of package.

5 I have a couple of other questions, Mr Chair, if there is time.

CHAIR: Sure.

10 MS FITZGERALD: Jyri, would you like to comment on that with the gorse and broom?

MR KAAPRO: I guess our attempt with the label is to allow for application of these species outside the period of flowering and, as you have said, the window can be quite long. So we've got the opportunity before and after flowering.

15 With regard to the residual effect, obviously, as current practices are, the gorse will keep reappearing. So we've got this ongoing problem of new plants coming. So it does require a whole integrated approach to manage that seed bank now and the same will be with Method. We can get some residual control but being species with that hard coat and such a long life in the soil, the plants will certainly keep coming back.

20 DR BYROM: Okay, thank you. Then just a quick follow-up on the Tasmanian gorse and broom trials. I noticed there was several months or up to a year and then going back and reassessment. But I just wondered if there's even more-recent reassessments or photos taken on those spot trials, particularly that gorse one. I was quite curious to know whether there's any more-recent information on the state of play in those sites now?

30 MR KAAPRO: No, we concluded those trials at 12 months. I haven't got any information after 12 months.

DR BYROM: Okay, so we don't have any information after 12 months for those two gorse and broom species in particular?

35 **[10.45 am]**

MR KAAPRO: Not on those two trials, no.

40 DR BYROM: Okay, thank you. With the Twizel trial, just going on to wilding conifers, with the Twizel trial did you observe any re-emergence of native species? Was there a plant assessment done under the dead canopy there?

45 MR KAAPRO: Margaret, you might help me here. We did go back and look at the species. I don't recall if there was a comprehensive list made of the species, which were appearing. There was certainly a lot of grasses. I don't recall if there was any other species coming back at those sites.

MS FITZGERALD: Yes, I can't recall. I think we did provide information to the EPA during the evaluation on the non-target species. I can't recall if we went back into that site or not.

5

DR BYROM: Okay, thank you, I'll leave it there, Mr Chair, unless anything else comes up in the discussion. Thank you.

CHAIR: Great, thanks, Andrea. Dr Tredwell?

10

DR TREDWELL: Thank you, Derek. Andrea's already covered one of the queries I had about re-emergence. Just on the trials that were conducted, I've got a couple of extra questions. One, I'd be interested if we could be advised on what methods of application were used, is it spot spraying, is it aerial spraying, what sort of trials were carried out with the different spraying techniques?

15

The other question I had relating to this is from experience. Which of the methodologies used for applying the herbicide are considered to be the most efficacious in terms of results, given that we are talking about anything from spot spraying to aerial spraying?

20

MR KAAPRO: So we've done trial work with foliar applications, both by ground, so like a knapsack application on scattered trees, like you can see in the background in the photograph behind me, as well as basal bark applications by ground on those. We've done aerial work, such as drone work, on scattered trees.

25

In terms of the best method, the best technique with Method, the foliar application certainly seems to work best. Basal bark applications, once we get into larger trees and we get that thick bark, the penetration through the bark becomes quite difficult. So certainly on younger trees we don't have any problem. We've done a lot of work on other weed species around the world with things like injection and that seemed to work quite well, so putting a product into the trunk of a tree. That's certainly something down the track to look at with the conifer species. But general foliar uptake certainly is giving us the best results on the species we're looking at.

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DR TREDWELL: Okay, thank you. One last query, just on the frequency of application, and I confess I could have missed it, I have seen the information on the rates but what are we looking at in terms of frequency of application? Is it annually? I noticed information suggesting, I think, in the States it is once every three years, is that something to be considered or discussed with the information that you are presenting or using to support the use of the product?

40

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MR KAAPRO: We're looking at a single application in most cases. If you are getting species where you get regrowth then there might be a need to come back and redo it at some time. I don't know if Matt's got any comment on that, on the US situation, but we are really looking at one application for control.

5

MR NESPECA: Brush application in general when we are looking at good effective brush applications, it is always the desire to find a way to be able to treat and get effective results in the single application, with rooted woody plants, whether it is in a utility scenarios or in the natural areas that is always the objective certainly when you have individual plants that you are targeting and trying to control those at the root level to be able to release native vegetation. Again, single application is always the desired objective.

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DR TREDWELL: Okay, thank you. That is all from me, thank you very much.

CHAIR: Thanks, Stephen. Just following up on that -- well, I guess the integrated control of a number of pretty intractable weed problems that we have been talking about, are you envisaging that there would be ongoing trial work conducted by yourselves or with DOC or MPI or users in general?

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[10.50 am]

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I am just wondering what your thoughts are at this stage on that? Assuming, of course, that the product is approved.

MR KAAPRO: Yes, without a doubt, trial work on this never stops, there is always new application techniques, new situations, new combinations with new products that are coming out, new equipment and so forth, new species to be controlled. No, there will be a long trial programme that will commence.

30

35 CHAIR:

Thank you. Just one specific question I picked up with all the material that came in, a proposal that says that for aerial application something along the lines of to apply at a height no greater than 3 metres unless aircraft safety was a concern. I wondered what the purpose of that statement was really, given that certainly on anything but flat ground that would seem to be way too low for aircraft to be applying the product.

40

MR CRACK: I think I can potentially answer that one, Jyri. We took guidance from the wilding conifer best practice guide, so the one that is developed by the Ministry of Primary Industries. They put out an annual best practice guide for the application of pesticides to the wilding conifers and within that guideline it sets their recommendations so we stuck with the local recommendation on that.

45

CHAIR: Okay, that's good to know where it came from. Any comment on whether it really does apply? Is it going to be used widely then?

5 MR CRACK: I think in the image that Jyri has behind him and in other sites that we have had it, it is relatively flat. It is really quite practical to do and granted in some extremely hilly areas and rough terrain it might not be so practical or safe and hence the disclaimer on that said only if it was practical or safe to do so. It is really about mitigating drift. The
10 closer it is to the canopy the less drift risk there is.

CHAIR: Yes, I appreciate the intent. I guess it was the aim being so low and the letter applied it almost said it was of doubtful benefit to say. But, okay, you have clarified where it came from anyway.

15 Moving right along, can we hand over to the EPA team for questions, please?

MR LAPAGE: No questions from this room. I don't know, Mike or Laura, if you have
20 any questions?

MR BERARDOZZI: No, no questions, thank you.

DR SUDDABY: None of me either, thank you.

25 CHAIR: Okay, then submitters. Don, I think you are the only one we have online at the moment.

MR MACLEOD: The first question I would like to ask, Mr Chairman, is the active
30 ingredient is active in the oximes in the plant and it stops the elongation, as I understand it, at the root and at the growing tip. Have the applicants tested for the active ingredient residues in nectar and pollen on these plants that they've tested, they've trialled?

35 MS FITZGERALD: I did follow up that question and, no, we don't have residues on nectar and pollen.

MR MACLEOD: So there has been testing that shows that?

40 MS FITZGERALD: No, sorry, I don't believe we have any data on that particular question.

MR MACLEOD: So it is possible that the active ingredient could be in the nectar or pollen of a plant sprayed?

45 MS FITZGERALD: Yes, I guess it could be. Matt, do you have information on that?

MR NESPECA: No, I don't, I don't have information. I'm thinking about the nature of application, that if an application was being made while a plant was not

flowering what the potential of the plant would have to then flower following an application.

[10.55 am]

5

To me it is something that, just from a sequence space, if you are controlling an unwanted plant like Scotch broom or English broom or non-native conifers, that process of the plant declining happens fairly quickly over time so I don't see the flowering effect following application unless Jyri or Paul can give some additional thoughts on that. It just doesn't seem like that would be a practical or a likely occurrence.

10

MR MACLEOD: I noted that in the trial samples that you showed of broom and gorse and pines, and there was radiata pine in Australia, the kill was a slow kill, that is it is five, seven, eight, nine months before you start to see results. I note that that might be possible -- does the plant stop its flowering and growth stage at application or is that a slower process within the plant to negate that going forward from date of spraying?

15

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MR KAAPRO: What we've seen -- it obviously varies depending on species. Sometimes we do get quite a quick kill with some species and especially once you are getting into the larger species it can be slow. I don't know if I've really noticed -- I would say that the plant generally stops growing and we slowly see the development of the symptoms, but I can't be 100 per cent sure in every case whether the flowering is actually stopped as well.

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30

I don't know from your experience, Matt, whether you can confirm on that? I would say that generally the plants stop growing once the active ingredient gets into the system of the plant.

MR NESPECA:

Yes, certainly with woody plants, you know that over time it's going to stop growing and those symptoms will show more and more. The decline and the dieback will occur in some cases, especially with non-native conifers, over time but the plant is not going to go into additional -- it tends to stop putting out any additional foliage. It tends to stop its active growth.

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So I don't believe that it is common for flowering to occur, let's say, months after an application, it's usually those plants are in decline at that point.

MR MACLEOD:

The final question I have is I understand that you will not be registering this product with MPI under the ACVM Act, is that correct?

45

MS FITZGERALD: We are going to look at that down the track but this application is for a non-grazing use only and we have had a class determination done by

the MPI on the label we proposed and it is exempt from the ACVM registration with the current label.

5 MR MACLEOD: So it will not be going on to grazing land like some of the photos that you were showing in the presentation?

MS FITZGERALD: No, it's not. This application is for non-grazing use.

10 MR MACLEOD: Thank you.

CHAIR: Okay, thank you, everyone, for all of that. If there are no further questions, we will move on to the EPA presentation.

[11.00 am]

15

EPA PRESENTATION

REGIS LAPAGE PRESENTING

20 MR LAPAGE: Just bear with us a moment. You should be able to see the presentation now. Okay, I will make a start. All right, Regis Lapage speaking, I am a senior advisor for the EPA. I am going to start the presentation with a few general facts.

25 So we have received and evaluated an application for a herbicide containing 240 grams per litre of the active ingredient aminocyclopyrachlor, which is, as we have seen, a new active ingredient for New Zealand. So the product in question, Method, is a herbicide for the control of wilding conifers and other woody weeds.
30 In terms of the use which has already been covered quite extensively by the applicant earlier, what we can highlight here or reiterate is that the product is intended to be used in a wide range of uses and situations, initially as you can see here on the slide using a wide range of application methods. The timing of application is during active growth
35 of the target plants.

40 I'm going to spend the next two slides illustrating the different types of applications. We note that the chemical management of wilding conifers is already happening. It's already a reality in New Zealand with what seems to be well-established guidelines for good practices.

45 On this slide you can see in the middle and on the left aerial application types. On the left this is an application method which is very targeted and used for hard-to-access and scattered trees. In the middle we've got the aerial broadcast spray application which is used for dense and extensive infestations of wilding conifers. On the right-hand side of the slide you can see ground basal bark application for easy-to-access trees.

5 A couple more ground-based application methods. On the left, one which is more used for the treatment of woody weeds. In the middle, also known as the drill-and-fill method, which is the tree-trunk injection, which is very targeted, and on the right the cut-stump treatment, which is used to prevent regrowth.

10 Now a couple of key dates on the Method application. It was lodged in February 2019 and formally received in June. The public consultation ran from mid-June to end of July and then the application was placed on timeframe waiver, basically to allow the EPA to do the quantitative assessment. After an initial assessment, the EPA issued a few requests for additional information, which the applicant, Bayer, responded to and also conducted additional studies. Then the application was completed in January 2022 and today is the hearing. As mentioned by the applicant this morning, aminocyclopyrachlor is also approved overseas, currently in Canada, in the USA. I understand that there's a decision expected in Australia later this year.

20 If we look at the case and history of aminocyclopyrachlor in the USA - because this is something we have taken into consideration for our assessment and also because this is something that one submitter brought to our attention during the public consultation. Again, as mentioned this morning, ACP, aminocyclopyrachlor, was approved for the first time in 2010 in the USA in a product called Imprelis. It was designed for use on turf, at the time placed on the market by another company, DuPont. Within one year of registration the US EPA issued a stop sale order of the product following numerous non-target plant incidents reported, damage to non-target trees particularly.

30 In 2014 Bayer purchased the right to ACP products and in 2020 the US EPA granted a special authorisation for Invora, which is a product that combines two active ingredients, aminocyclopyrachlor and triclopyr. We understand that this product is used in vegetation management and is restricted to professional use and only to operators who would have received training and stewardship information from the applicant.

40 Coming back to New Zealand, during the public consultation that occurred in 2019 we received nine submissions for this application, three in favour and six opposing. Today we have two submitters who will speak in support of their submission.

[11.05 am]

45 Regarding the mode of action of the active ingredient, on the slide here you can see a poster that is developed by the HRAC, which is the Herbicide Resistance Action Committee. We have circled aminocyclopyrachlor in red on the slide. You probably can't see the details too well here, but basically aminocyclopyrachlor belongs to the

5 group four mode of action of auxin mimics. If we zoom on that we can see that there are other herbicides in this group with the same mode of action. We have circled in blue those that we know are also used for the same use, for the control of wilding conifers, in what we know is a mixture of active ingredients that are used together. It is called a TDPA mixture. We will provide more reference points to this TDPA mixture later in this presentation.

10 Now I would like to hand over to Michael.

MICHAEL BERARDOZZI PRESENTING

15 MR BERARDOZZI: This is Michael Berardozzi speaking. I'm going to cover off the part of our presentation which looks at the hazardous properties of aminocyclopyrachlor and Method as well as part of the risk assessment that was conducted for the application.

20 Starting with the hazardous properties and characteristics of aminocyclopyrachlor, we have received a relatively sensitive dataset for aminocyclopyrachlor as part of this application, which has enabled us to determine classification for the substance. This was covered by the applicant previously. Based on the information received we were able to determine that the classification triggered by the active ingredient was hazardous to soil organisms, which is based on our study results on our non-target plants, which we will come back to, as an effective herbicide. That does not come as a surprise, obviously. Another interesting part is that this is the only classification triggered by aminocyclopyrachlor and the active ingredient, which is a relatively rare occurrence for herbicides. There are no human health classifications or aquatic classifications triggered by the active ingredients, even based on lemna or algae data.

35 The dataset that was provided to us also enabled us to characterise some other characteristics of aminocyclopyrachlor in relation to its behaviour and fate in the environment - if we can come back to the slide - in relation to mobility, bioaccumulation potential and persistence. Aminocyclopyrachlor does not have a potential for bioaccumulation, based on the information that was provided to us, but it has a profile that we can characterise as being leacher profile, which means that it has quite a high potential for mobility in the soil profile based on its soil absorption properties and also based on its relatively high persistence in both water and soil environments. Typically when you combine those properties together, that would give rise to potential movement into the soil profile and potential groundwater contamination issues, which I'll cover a bit further down this presentation.

5 The same sort of exercise was conducted for the formulated product, Method 240 SL, that contains aminocyclopyrachlor and other ingredients. Again based on the information received we determined that the classification that was applicable for Method was hazardous to soil organism, again based on its herbicidal properties. Again the thing which is worth noting here is that this is the only classification that was determined applicable for Method.

10 Moving on to the risk assessment that was conducted for Method based on its hazardous properties and starting with the human health side of things.

[11.10 am]

15 We did conduct a human health risk assessment on the basis of the hazardous properties and the determination of acceptable operator exposure limits, otherwise called AOEL, that was established for aminocyclopyrachlor. This value was of 2 milligrams per kilogram of body weight per day, which is relatively high and indicates favourable profile. That translated into a calculated risk to operators, re-entry workers and bystanders that were low. The level of concern for human health is of one. The values here that are reported in that slide in terms of restrictions are well below that threshold. This is without the consideration of personal protective equipment. That confirms what the applicant has covered in their presentation in to the favourable profile and low risk profile for human health for operators, bystanders and workers.

30 As part of our application process we do also consult with WorkSafe as the responsible agency for the overseeing of risk to workers in a workplace. You have here an extract of their main conclusions, which is first that because it doesn't trigger any human health classification, the Health and safety at Work Hazardous Substances Regulations do not apply. They were happy with the conducted human health risk assessment that was provided to them.

40 That concludes the part around the human health risk assessment here. I'll now move on to the environmental risk assessment, where most of the discussion and the focus of our evaluation really was, the environmental risk assessment.

45 With that slide I wanted to illustrate a number of things. The first is that we've assessed the risks to the environment for a number of our seeding environments and potential non-target species, from the aquatic environment to non-target arthropods, and covering groundwater and soil-dwelling organisms, non-target plants, birds, and bees.

5 A second fundamental aspect of our work and our risk assessment here was the fact that the type of uses were of a different nature in terms of the potential for exposure from what Regis has covered previously. There are some methods of application, which are quite targeted, which are individual plant treatments, when you're talking about tree injection. The potential for exposure of target movement is way lower than what obviously can happen with aerial applications. This had some implications in terms of our evaluation, quantification and qualification of the risks for a number of compartments.

10 It is worth noting that there are some areas where we concluded that the risks were negligible from the aquatic side of things through soil-dwelling organisms, birds, and acute risk to bees. But there are other areas of the risk where we concluded that the risks were potentially high and non-negotiable. That was in the groundwater side of things, non-target plants.

15 There are also areas where, although we did not identify necessarily risks that were high, where we lacked a bit of data to be able to be quite conclusive on our risk assessment, and that was on some of the aspects related to the bees risk assessment and non-target arthropods. We'll elaborate a bit further in our presentation on some of those areas. Where are some risks are, data gaps were identified, that's where we tried to propose controls that would address those, either risks or data gaps.

20 Another point, which I think is important to make in relation to the work we've done here is also that we've checked back and referenced the available overseas risk assessments, which were conducted for aminocyclopyrachlor and Method, where available. As mentioned a couple of times already, the active ingredient in associated substances are approved in both the US and Canada and we did look back at what US EPA and PMRA conclusions were in relation to some of those areas of assessment to check consistency of our findings and also in relation to controls.

25 **[11.15 am]**

30 So now we'll go in more detail in some of those areas of the risk assessment starting with groundwater. Again, as mentioned, there are different types of uses that the applicant has asked for in relation to the use of Method, in relation to their potential for exposure and off-target movement. In the case of individual treatment for groundwater potential for contamination, we concluded the risks were below the level of concern. But when it comes to more widespread and wide dispersive types of application with aerial application obviously being the most advanced sort of example in that case, we concluded that there can be potential for label statements to alert users to potential risk. But

there are potential risks that cannot be mitigated because it depends very much on the local conditions and whether there is a groundwater table available on that particular area where the substances intend to be used, etc.

5

So we looked into these areas a bit more in detail. We did calculate expected concentrations in the environment with the caveat that the models that we're using are designed for more agricultural type situations. But it did confirm that, based on the properties of the substance, there is a potential high risk of leeching and contamination of groundwater.

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Based on the expected concentrations we looked at, with the potential risks to then aquatic groundwater and communities, like bee and potentially human health, but we did confirm that these would not be impacted based on the levels that were calculated. So the risk that was identified is more of a contamination nature and presence of the active ingredient in the natural environment.

15

That being said, we also noted that there are some risk mitigation factors that would play against that potential leeching movement, one of which being the plant uptake by the root system as the substance is applied at a time of active growth. There is potential photolysis on the leaf surface and there's also uptake by the root system through the plant.

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We then concluded in relation to proposed controls that were aimed at first alerting the users to the potential risks with a label statement that there is a potential risk for leeching into groundwater. There is also a statement about application at a time of active growth to be able to maximise the potential for dissipation by plant uptake. We will come back to that discussion in the more general controls discussion, but also there is a requirement for a responsible handling information package to cover the protection of water bodies and groundwater specifically.

30

Finally we noted that initially there was a desire to apply the substance to bare ground, but based on the potential risk, we also included, for the protection of water bodies, this requirement, "Do not apply on bare ground."

35

So that concludes the part about the groundwater risk assessment and we'll now move on to the non-target plants, which is effectively the critical area of the risk assessment, and I will hand over to Laura who will be covering this particular section.

40

45

LAURA SUDDABY PRESENTING

DR SUDDABY: Thank you, Michael. This is Laura Suddaby speaking. Yes, I'm going to talk to you about the non-target plants. I'm going to start with

5 toxicity. The standard way toxicity is assessed is by the effect on vegetative vigour and seedling emergence. Vegetative vigour means the overall health and vitality of the plants. This is assessed by spraying the test substance on to the plants and then you assess the plant for the next 21 days. You look for visual effects and you would take measurements of the heights and the shoot dry weights too, and then compare it with the controls.

10 [11.20 am]

15 We received full vegetative vigour studies performed on four different aminocyclopyrachlor-containing formulations. Although it should be noted that none of these were Method itself. Ten different plant species were tested and the lowest vegetative vigour ER₂₅, which is the rate at which 25 per cent effect is observed, was 0.0246 grams per hectare. The lowest vegetative vigour NOER was 0.00116 grams per hectare.

20 The key thing to note here is that these endpoints were extremely low, meaning exposure to a very slight amount of aminocyclopyrachlor will cause phytotoxic effects.

25 So to test the effect on seedling emergence, the test substances this time are applied to the soil and then the seeds are planted in the soil. Over the next 21 days you're going to look at emergence of the seed, shoot height, shoot weight, and survival, and again compare it with the controls.

30 Again we received four seedling emergence studies, so aminocyclopyrachlor-containing formulations, and again it should be noted Method isn't one of these. The same ten plant species are tested and again the most sensitive endpoints were quite low, 0.250 for the ER₂₅ and 0.39 for the NOEC.

35 As with the vegetative vigour endpoints, the key takeaway is that these endpoints are also very low, again indicating that seeds exposed to aminocyclopyrachlor in the soil affected even at quite slight concentrations.

40 So now moving on to the risk assessment itself. So, in this case, we've taken a qualitative approach and that's because, as Michael said, our standard risk assessment methodology was developed for agricultural crop scenarios, so this application is a bit non-standard for us.

45 So there are four main parts to the risk assessment, the first is looking at the eight seedling emergence and vegetative vigour studies in a bit more detail and in the context of the maximum proposed use rate. The second part is consideration of the New Zealand context itself and risks to native species. Third is the potential proximity to commercial

forestry activities. Finally, we've considered the conclusions of overseas regulators where aminocyclopyrachlor has been assessed.

5 So first I'll look a bit further at the lab studies. This graph shows the vegetative vigour ER₂₅ endpoints. The value of these is on the Y axis. Along the X axis are the ten plant species that were tested, starting with the dicot species on the left and then the four monocot species on the right. The four different coloured points each represents a different aminocyclopyrachlor-containing formulation. Then finally the horizontal yellow line shows the maximum proposed use rate of aminocyclopyrachlor.

10
15 You'll notice that the dicot species are much more sensitive in general to aminocyclopyrachlor than the monocot species, because the endpoints are much lower. You will also notice some differences in toxicity depending on the formulation. But the main purpose of this is to show that the ER₂₅ endpoints in the vast majority of cases are below, and considerably so in some cases, the maximum proposed application rate of aminocyclopyrachlor.

20 You can also see the same pattern here for the lower endpoints as well as here for the seedling emergence, ER₂₅ endpoints, and finally here for the seedling emergence NOER endpoints as well.

25 This means that if susceptible plant species are exposed to Method then significant hypertoxic effects in mortality can be expected. None of the ten plant species tested would be unaffected and none target plant species are likely to be present inside the application area and they would have to be completely protected from exposure to ensure that no adverse effects occurred.

[11.25 am]

35 So to conclude this first part of the non-target plant risk assessment the level of risk, as indicated earlier already, is very much dependent on the application method. The broadcast application methods, where there is a higher likelihood of off-target exposure a major risk is identified for non-target plants. There was uncertainty about whether the risk can be managed for broadcast applications in all situations, particularly native conservation lands because the risk very much depends on the local conditions.

40
45 This was addressed as part of some additional bespoke controls which Michael will talk to later and they take into account the local conditions and address this uncertainty a bit further. In more targeted individual plant treatments the likelihood of off-target exposure is considered reduced and risks to non-target plants are considered managed by standard proposed controls.

5 So whilst the standard laboratory toxicity tests showed considerable phytotoxicity, what does this mean in the New Zealand context? So we considered the impact of Method on native species and conservation areas.

10 Going back to the field trials which were already presented earlier, four field trials were performed in New Zealand and these were submitted to us. These field trials were carried out really for efficacy purposes, investigating control of bores and spring water. They were performed with Method. As part of their observations hypertoxic effects on the surrounding vegetation were recorded. Not phytotoxic effects were observed in the surrounding vegetation, which did include some native species like grasses and sedges.

15 Now, it's important to note that only targeted individual plant treatments verification methods were tested in these field trials, therefore it is likely that no phytotoxic effects were observed because the surrounding vegetation wasn't exposed to Method. We have no data on effects to non-target native species or broadcast application methods. Yes, this really highlights the importance of application methods in managing risks to non-target native species.

25 As seen here, whilst wood cast applications provide greater control for wilding conifers in extensive and dense, remote, hard to access areas there's a high likelihood for off-target exposure and there is a higher risk to non-target plants. Conversely, while individual plant treatments are only used for controlling sparse logging conifers growing on flat, easily accessible lands, the likelihood of off-target exposure is much reduced and thus the risks to non-target plants are also much reduced.

30 To conclude the second part of the risk assessment. The risks and susceptibility of native species is an uncertainty. This uncertainty is considered significant for broadcast methods of application, particularly for native conservation lands where it was uncertain whether the risk could be mitigated with the standard controls. Again, that is where the additional bespoke controls come in to address this uncertainty, which Michael will speak to later.

40 Again for individual plant treatments the uncertainty is considered less significant. The likelihood of off-target exposure is reduced and safety to surrounding vegetation has been demonstrated for these types of application methods. For example, as shown in the field trials. So the risks are considered manageable with standard controls.

45 [11.30 am]

5 For the third part of our risk assessment we looked at proximity to commercial forestry activities and overall controls were proposed by the applicant and these have been considered and implemented by the EPA to prevent damage to managed trees. Michael will discuss these in more detail in the controls section, especially to do with the setback systems.

10 Again, to conclude that part of the risk assessment, the potential proximity to commercial forestry is considered significant for a broadcast application method but, of course, the level of risk would very much be dependent on the local conditions, for example, if it is close to commercial forestry at all. Again, this relates to those bespoke controls that Michael will discuss later. This uncertainty is considered less for individual plant treatments as potential risks are considered managed by standard proposed controls, which will include a site specific risk assessment.

20 Finally, we considered the conclusions of overseas regulators who have assessed aminocyclopyrachlor. For critical areas of our risk system we do always check other regulators' conclusions, just to check we are in alignment and we haven't necessarily missed anything. As was touched upon earlier, the US EPA put buffer zones of 30.5 metres in place but they state there is uncertainty around the effectiveness of this because effects to non-target plants can occur over quite a large distance, beyond 305 metres, according to their modelling. Again, they recommend that the herbicide should be applied only once every three years. The Canadian PMRA supplied labour statements regarding non-target plants and also applied buffer zones of up to 225 metres and they also state to avoid turning treated material into compost products due to aminocyclopyrachlor long persistence in the environment.

30 That links to the controls now which Michael will discuss.

35 MICHAEL BERARDOZZI PRESENTING

MR BERARDOZZI: Thanks, Laura. We have just asked for the control again. I don't know if that's something that has come up on your screen. Thank you.

40 I think one of the themes that you have seen from the ground risk assessment discussion and the non-target plants discussion is this dichotomy between the more targeted application methods of the usual plant treatment and more wide dispersive aerial applications or broadcast application methods. Although we have suggested a number of extended controls that are typically applied to standard agri chemicals we felt that there was a need for a more bespoke and tailored approach to controls which I am going to cover in a bit more detail in this section.

5 So you will see that there is a range of label statements that are here to raise the awareness of potential users to a number of the specific risks that are there and arise from the aminocyclopyrachlor method that cover ground risk but also risk to non-target plants. There were six statements that are included there. They are also a requirement for minimum buffer zones to be included and for site specific assessment for broadcast application to be conducted and this includes the determination of the so-called setback distance for sensitive non-targeted crop vegetation.

10 These controls are designed here to cover for the potential local elements that need to be taken into consideration to properly mitigate the risks of the impact to non-target plants. So in terms of those minimum buffer zones and setback distance, in the next slide here is an illustration of what effectively it is intended to be.

[11.35 am]

20 This came from a proposal from the applicant and based on the work and similar controls that were proposed in the US. In relation to potential impact on non-target plants, it is important to understand that, as Laura has covered, even very low concentration of residues of aminocyclopyrachlor eventually can affect non-target species and that can be either from direct contact to the foliage of those non-target plants or it can be through residues that are present in soil and then potentially taken up by the root system.

30 This is where the definition of a setback distance is quite important and here it provides an illustration that it is actually 2.5 times the distance -- the canopy that you are applying from the tree and the idea is to make sure that there is very limited potential for any residue of aminocyclopyrachlor to find its way into this zone. So for a broadcast application when it comes to ground base application, we have determined that there is a minimum buffer zone of 10 metres that would need to be incorporated for the use of the substance but this is designed to be a minimum buffer zone linked to the preapplication assessment where the users have to identify the non-target plants and ensure that appropriate buffer zones are determined.

40 For aerial application, obviously there is potential for off-target movement to be even bigger than for ground-based application methods and therefore we have suggested a minimum buffer zone of 100 metres in that case, with the same sort of principle applying and you have the same definition in terms of setback distance and other considerations.

45 Now, it points to another area of the controls that we have suggested for this Method application, which is linked to what is called the

5 responsible handling information package, and this is another term that covers what has been referred as stewardship. That means that we ideally want specific users of the substance to be fully aware of the risks associated with the substance and we want the applicant to provide this information to those users and make sure that the users are properly trained to understand and address the risks appropriately.

10 Again, this was in response to some concerns that we've raised with the applicant when we shared some of our conclusions in relation to the potential high risks for the wide dispersive application methods. The applicant introduced to us a stewardship discussion and provided information on the intended stewardship programme for Method in New Zealand. We noted that in the USA this is something which is being used at the moment. We also note that we've got this concept of responsible handling information that has been introduced for another substance previously. That was the case of Paraquat, as a result of the Paraquat reassessment. We have proposed to adopt a similar approach for Method. This is the contents that was proposed as additional controls, the resource of which is provided obviously in the Staff advice document. That covers non-target points specifically.

25 In terms of the information that forms part of the responsible handling information, it needs to cover specific things about the application restrictions, contact information, and the specific areas of risk that were identified and you will see that there's a protection of non-target plants, the protection of water bodies, including groundwater, and limitation of off-target movements through either spray drift, runoff, drainage or leaching.

30 There is also a need to provide information on how a preapplication treatment area assessment will be conducted.

35 The one thing I would like to point out here is that for Method it is a really comprehensive suite of control and probably one of the most stringent sort of suite of controls we've proposed for herbicide. They would sort of constitute a first in relation to how herbicide for the control of wilding conifer would be used if this substance was to be approved.

40 **[11.40 am]**

45 These are things that are covering the non-target plants and, as mentioned earlier in the presentation, there are some areas of the risk assessment where we also identify data gaps, and we want to cover in more detail about the bees risk assessment that we've conducted for Method as well.

5 So we followed our standard risk assessment methodology for Method, which was formally linked to the acute risks being considered, and this is based on calculation of potential exposure and a comparison of this potential exposure to the toxicity data that we have. With Method we had acute information that was used to calculate the risk and when it came down to the actual risks they were well below the level of concern for Method so we were able to conclude that the acute risks to bees were negligible based on the information produced there.

10 The issue that was identified for Method specifically was the fact that there was no data available for chronic and larval toxicity and this is something we've identified and flagged to the applicant.

15 In relation to also earthworm risk assessment where a similar situation was encountered where all the acute risks were identified as being negligible, we didn't have information to confirm that the chronic risk will be equally negligible. Based on the specific persistence of aminocyclopyrachlor, as mentioned we still believe that was something we wanted to get more information on.

20 In the case of earthworm, a study was conducted that allowed us to complete the picture but for the risk assessment to bees the applicant provided a wider and an augmentation that we've evaluated but that we still considered didn't fully address the data gap. So in relation to this, that's where we commended a number of more specific controls based on these facts here of things which were highlighted before in a discussion and the fact that the substance intended to be used on gorse and broom that are potentially attractive to bees and an important source of pollen.

25 That resulted in us concluding that the data gap is potentially quite significant based on the pattern for the worst-case application scenario, so the more wide dispersive type of uses.

30 That's why we've included more specific controls. There are some label statements, which are basically the label statements that have come from the Hazardous Property Controls Notice that are typically triggered for substances that trigger the classification that are hazardous to terrestrial invertebrates, included this as a label statement. We also included in the preapplication assessment that there's a need to identify potential beehives that might be present around the potential application area and this also is linked to the responsible handling information package that we mentioned before.

35 In general conclusions for the environmental risk assessment, we concluded that with the extended proposed controls in place the risk to the environment were considerably negligible except for non-target

plants and potentially non-target arthropods, for which there was some level of risk that was likely to remain for wide dispersive use.

5 In relation to other types of uses, such as industrial sites, roads or railways, utility rights of way, bare soils, we concluded there was too much uncertainty in relation to those uses.

10 I will now hand over back to the team in relation to the rest of the presentation.

TE MAURI APIATA PRESENTING

MR APIATA: Te Mauri Apiata here again. I'll be providing a summary on the MIA, or Māori Impact Assessment, that was completed by our Kaupapa Kura Taiao team. So I've just got about three slides to summarise there.

[11.45 am]

20 I suppose just some opening comments, just general. So Method 240 could be a more suitable alternative option for the control of especially wilding pines. That's always a good thing when we can have alternative options to other things that may have more impact, I suppose. It's also good to know that it's not likely to have a negative impact on taha hauora or human health and wellbeing, as well as impact on culturally important bird species and aquatic habitats.

25 We also note that there is potential to impact culturally important plant species used for rongoā and food purposes, so that's an area of concern. Just noting also the insufficient information on the gaps around impacts to significant arthropods or Te Aitanga Pepeke.

30 Just in terms of control, I think just emphasising I suppose the preference for the targeted treatment over more wide dispersant methods of application where possible and the fact that the substance will only be used by professionals is also a good point as a way of minimising the adverse effects of the use of the product.

35 Probably one of the other important points would be around the notification where possible for Māori parties so that they are able to put in place any actions or any steps they need to minimise the impacts from a cultural perspective.

40 I suppose, just in conclusion, Method herbicide is not likely to adversely affect the economic, social and cultural wellbeing of Māori and the relationship Māori have with their environment given the proposed control measures that are being put forward. That was the conclusion I suppose for our Māori Impact Assessment. Kia ora koutou.

REGIS LAPAGE PRESENTING

MR LAPAGE:

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I will carry on with the assessment of benefits. The applicant claimed several benefits with this application, which touch on the thematic that you can see here on the slides. That includes an efficacious control of wilding conifers and other problematic woody weeds and also, I would say the environment and human health profile of Method in the chemical landscape of other herbicides currently available on the market for the same pattern.

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So if we look at the first benefits here, which is an efficacious control of wilding conifers, the EPA acknowledges the importance of the threat that wilding conifers represent on the biodiversity in New Zealand. We note that it is also widely acknowledged and documented by other government agencies, such as the Ministry for Primary Industries and the Department of Conservation. We consider that the benefit is major to massive, as it would allow long-term widespread benefits to key New Zealand ecosystems and landscape. I would say, to characterise the level of this benefit, we have used the qualitative descriptors as per our risk assessment methodology.

20

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Regarding the second benefit, which is the efficacious control of other problematic woody weeds, we note that Method is considered efficacious against gorse, broom and other woody weeds and we consider that the level of this benefit is major because it would bring long-term benefits to localised ecosystems.

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In terms of the third benefit, which is the place of Method in the chemical management of wilding conifers in the country, while it can be a bit risky to compare active ingredients or products on the sole basis of their classification, if we do that anyway we note that Method has a more favourable profile than most other herbicides currently available on the market and that we investigated as part of this application. I will spend the next two slides illustrating this.

[11.50 am]

40

The substitution of those herbicides by Method is considered a potential benefit, a high benefit, yet dependent on the actual use of Method in lieu of the existing herbicides. Therefore, we consider that the level of this benefit is moderate.

45

So on this slide you can see a comparison between the application rate and the classification of Method with other known alternatives for the control of wilding pines. As mentioned previously, the classification of Method is hazardous to soil organisms. In red on this slide we can see classifications that apply to other herbicides but not to Method. If

5 we do the same exercise here with two of the herbicides that we know are used in the previously mentioned TDPA mixture - Grazon Herbicide and Tordon Brushkiller - we can see the differences here between Method in terms of the application rates and the classification of those products.

10 This brings me to the end of this presentation. This is the last slide. To wrap up, in conclusion we can say that the risks to human health with controls in place are negligible. The risks to the environment are negligible except for non-target plants and potentially non-target-arthropods, given the data gaps, for which some level of risk is likely to remain for wide dispersive application. The application is not likely to significantly affect the ability and capacity of Māori to maintain their economic, social, and cultural well-being. The potential benefits of using Method have been assessed as significant and therefore we recommend that the DMC approves this application, with controls.

15 Thank you very much. I will hand back to the DMC.

20 QUESTIONS

DR TREDWELL: I'm not sure what's happened to Derek. He may have gone offline for an unknown reason.

25 DR BYROM: There he is.

CHAIR: Thank you. Apologies for that. Okay, thank you very much for a comprehensive presentation from the EPA team. We'll move right along now to questions from Dr Tredwell first.

30 DR TREDWELL: Thank you, Derek. I have to say that that was -- well, I don't have to say anything. It's an extremely thorough piece of work. My compliments to the EPA team for the work that they've put in over the period of time and the presentations that have been in front of us as part of the preparation for this DMC and also today.

40 I've got a couple of queries, probably for clarification mainly for myself, in connection with a couple of areas. One is to do with the labelling. Whilst you were going through the presentation, I went back to have a look at the labelling controls and suggestions and modifications that were part of the staff report. I'm just trying to get my head around now, please, team, is there a final label proposal in place to be discussed with the applicant or is that still a work in progress?

45 MR LAPAGE: Okay, I'll maybe start with this one. So we did receive as part of their application, or the package, a draft label in 2019 from the applicant. Obviously the applicant wasn't aware at the time of the proposed label

statements and control that we would set down today, so at this stage there's no one label that includes all those controls. However, it would be expected that should the product be approved, then all the label statements that we provided at the DMC will be thorough. The control and all those label statements would then be inserted and included on the label.

[11.55 am]

10 DR TREDWELL: All right, thank you. My other query is concerning the methodology of application again. This may be a question that can't be answered from the EPA, but do we have any feel for the percentage of wide aerial spraying compared with targeted spraying in general with these sort of products? I'm just thinking of the risk-benefit assessments that have been conducted or that we're talking about, where one application provides benefit but with increased risk as opposed to the other. I'm just trying to get my head around what is that risk level like over all?

20 MR LAPAGE: I don't know, maybe I can give it a go now. Yes, that's a very interesting point there. I think it sort of was the driver for us to also say there's a need for an almost site-by-site assessment and thought process around is that going to be worthwhile for this specific area to use that helicopter and go for such an application method when the potential of target movement is going to be higher. That is why we suggested the addition of those specific controls to really have that sort of thinking into is it going to be worth it for the purpose that is intended for this specific application area.

30 That's what we tried to highlight, that it's difficult to provide a characterisation that would say, "Yes, that application in general would be this percent higher than this and this and that", because it's always going to depend on the local conditions. If it's a flat area of land but there's a big thicket of wilding conifer, that might be different to if there is a slow -- this is really the rationale behind the more pre-application assessment and the responsible handling information or, in short, the stewardship approach.

35 DR TREDWELL: Thank you. That's enough for me, thanks.

40 CHAIR: Thanks, Stephen. To you, Dr Byrom.

45 DR BYROM: Thank you, Mr Chair. Yes, like Stephen, I just have a couple of points of clarification or some questions. I'll go through them in no particular priority order. In terms of the substitution of the product, just to pick up a question that Stephen had as well, I noted that there's the hope that it will lead to a reduction in use of other perhaps more toxic or persistent products, but I wondered what evidence you used to base that conclusions on. Is there a cost driver there in terms of dollars spent per

5 hectare? I know that's probably commercially sensitive. Or is it operator health and safety or is a desire to reduce chemical load in the environment generally? What is it and what led you to that conclusion that there would be potential change in the use if this herbicide became available?

10 MR BERARDOZZI: I can start as well. To be honest, it's always a bit tricky to come up with a definitive conclusion as to whether the introduction of a new herbicide will lead to an overall reduction of the overall load. I think in the case of Method it is really more of an efficiency basis, because in the specific context of Method the target is to effectively remove and kill the wilding conifer. If you have a very efficient herbicide that will do the job, then that potentially removes the need for other herbicides to be applied and the TDPA mix and all the others.

15 To be honest, it's also why we landed on the benefit of being moderate and not massively major, because there's an uncertainty as to whether the benefit will be realised. It is difficult to be absolutely sure that it's going to materialise. That's how we tried to convey that into our own assessment there. That's a tricky point and we acknowledge it.

20 DR BYROM: Thank you. My next question was in relation to the overseas regulators. I noted that the US EPA suggested use every three years maximum, whereas you, as I understand it from the stuff we had in front of us, you recommended just a one-year reuse time. So I wonder why the difference between that New Zealand recommendation and the US recommendation?

30 [12.00 pm]

35 MR BERARDOZZI: It's a good question as well and something we've been considering a bit further. The thing about Method is it's really intended to be applied once ever. I mean it's not like an agricultural pesticide where you've got a crop and then you go back and then you need to apply your fungicide every year. It's really intended to get rid of those wilding conifers and other woody plants. So in essence ideally the objective is to do one application ever.

40 It's not entirely clear to us why the US EP landed on once every three years, there might be specific circumstances under which they concluded that. But to us it's really once every year, but in an ideal world we realise that it's not what is necessarily intended. Repeat applications are not what is intended with that sort of product.

45 But it would also have been quite difficult to conclude just one application ever because you never know what the specific circumstances are going to be. So this is sort of the best compromise we came up with in relation to this. We had in the back of our mind

that the philosophy around the use of the substance is really that it should be used once ever on a particular area. So it's not necessarily very clear on how it compared to the US EPA situation, but that's what drove our rationale around this particular aspect.

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DR BYROM:

Okay, thank you. I noted, just moving on to the risk assessment that was done, and I should say by the way just a thanks to the EPA team for their comprehensive assessments and the work that was done here. I should have mentioned that at the very beginning. It's really appreciated how clearly it was all laid out.

10

One thing I did note is that there were no seedling emergent studies for native plants, unless I missed that, so excuse me if I did. But I was wondering about what gives you confidence that the controls proposed will allow native plants to be able to re-establish. So you've covered some of that in your presentation, but I'd actually just like to hear it again. And also, if I may ask the Kaupapa Kura Taiao lead there to also comment on that from a Māori perspective as well.

15

20 MR BERARDOZZI:

Yes, I can give it a start and, Laura, feel free to complement my answer. So, yes, that's definitely a key consideration for us in this evaluation. But, as mentioned, there was a number of studies on the standard species, but these are standard species and there is always the question about how representative this is going to be to the native species.

25

There were no specific species conducted on a native species so to speak. There were field trials that we conducted in New Zealand that allows us to see the potential impact. But, as Laura mentioned, it was more confirming that, if you do a targeted application method, then the potential for the species to be impacted is limited. But that doesn't say anything about the inherent potential or risks to the native species.

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That turns into this uncertainty that Laura has mentioned and to the conclusions. That is where also that was a big driver for, if there's a risk and an uncertainty here, and if you want to use the substance for this important issue, which is the control of wilding conifers and things like that, then there needs to be consideration at the local level as to what other species or native species are out there and make sure this is considered as part of every time the substance is going to be applied to minimise the potential effects there.

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[12.05 pm]

That sort of is the compromise we sort of landed on in relation to this particular aspect. But we did not definitive information and, to be honest, we also considered it might be difficult to provide that information in the first place. So I don't know, Laura, if you want to ...

45

DR SUDDABY: Yes, I don't really have anything more to add to that, thank you, Michael.

5 MR APIATA: Kia ora. I suppose all I can add to that, I suppose, is that would be an important consideration I suppose, especially with a lot of areas that have significant wilding pine issues that are in native areas. So, if we are going to be controlling the wilding pines like that, that would be an important aspect. Because we would want the re-emergence or the regeneration of native species. So if that is going to be an issue, it is probably just something that would be interesting, or we'll be interested in I suppose as to what is that impact and how does that influence the regeneration of the native ako.

10 DR BYROM: Okay, thank you. I just have one more very minor question, Mr Chair, if there's time.

15 CHAIR: Sure, go ahead.

20 DR BYROM: Okay, it's relatively minor. It's on the toxicity around the risk to birds. So I might have missed this and I'm just double-checking that I didn't miss something. I thought there was information on the risk to herbivorous birds, but if I read this right I didn't see any information on potential risk to insectivorous birds or birds that eat invertebrates, for example thinking of kiwi and that data gap around earthworms.

25 MR BERARDOZZI: Yes, Laura, would you be able to ...

DR SUDDABY: Yes, sure. So I think the earthworm data gap was addressed in the end.

30 DR BYROM: Well, yes, except for what I'm really asking about is the bird information, did I miss something or ...?

DR SUDDABY: I don't think so, let me just check.

35 MR BERARDOZZI: While Laura is looking, generally speaking we've got standard tests, which are provided on surrogate species again. And Laura needs to check the details, but I think it was the Mallard duck was the standard test species and that we do conduct a risk assessment, which is based on different tiers. Most likely for Method we want to go to the basic tiers, which is supposed to cover all the potential species and herbivores, carnivores or insectivores type species. It's only when we have to go to the higher tier that we go into the details of what their respective diets are. I think that's what we've done there, but we need to be able to look back into the science to be able to confirm that, which I don't know if Laura can do that or if it's okay to come a bit later on that point.

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DR BYROM: Absolutely, I'm fine with that, Mr Chair. I was just wanting to clarify I guess at some point.

5 MR BERARDOZZI: We can look into that a bit and come back with the answer a bit later if that's okay.

CHAIR: Yes, that's fine, thanks, Michael. That's it, Andrea?

10 DR BYROM: Nothing further from me, thank you.

CHAIR: Okay, moving then on to the Bayer team, do you have any questions for the EPA team please?

15 MS FITZGERALD: I don't have any questions. I'll leave that to the others, if you have any questions?

CHAIR: Okay, all right. Moving on to Don, I think you're the only submitter we've got still. Any questions from you for the EPA team?

20 [12.10 pm]

MR MACLEOD: Thank you, Mr Chairman. First up, when you are displaying a helicopter spraying brush weeds, please, in the EPA, don't use one with flowering gorse in it. It does make me a bit angry and it's a simple thing to see. We still have farmers who, when they go out and see their gorse in flower, say, "It's about time we sprayed it," and get the contractor, the aerial contractor, to come in and spray all the flowering plants. Okay, and we learned that in the Exiral hearing, we had a good discussion with the helicopter operators in that one, and I think, Mr Chair, you were at that hearing as well.

I've got a fundamental problem with the risk assessment process. How big a data gap do you need before you ask the applicant to go away and get the data?

35 MR BERARDOZZI: Well, first, I just would want to come back to the first comment. The picture we've taken is from the wilding conifer programme, but duly noted and it's a fair point. We just took the picture from the information around the wilding conifer programme.

40 In relation to the second point, we did ask for information specifically about this. We did ask Bayer to provide information. As mentioned, they did conduct a chronic earthworm study as a result to our request for information for the natives. They did provide a waiver as in they did not judge that the study was required. We did not accept fully their waiver and this resulted in us suggesting controls as if the risk was identified. That's the approach we've taken here in that particular instance.

45

MR MACLEOD: My concern is you were concerned about good practice, good laboratory practice, good applications would have a complete application data package and my concern is that somehow this data application package does slip down due to the data gaps in there and they seem to be consistent in a number of areas besides the bee issue.

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My third question and comment is to do with the use of adjuvants. The applicant presented data that showed that they were using the adjuvant methylated seed oils between 1 per cent to 10 per cent of the spray solution. That's quite a reasonable variation and I noticed the aerial application is settling on 10 per cent applied in the final tank solution that is going to be applied to the weeds.

15

Where does the EPA stand on measuring that as the best option for our environment when you have a variation as large as that?

MR BERARDOZZI: Well, the use of surfactants, and it is something which has long been something we need to look into - which is a bit beside this particular application now - yes it is true that in the information we presented this morning they did mention that they are using oil on top of the adjuvant itself. We did consider this specifically for the BEIS risk assessment, and that is also another reason why we did suggest those extra controls, not only to provide for the data gap that was on the chronic side of things for that particular aspect and also that is something which -- obviously the oil is used to improve the efficacy for the uptake by the wilding conifers and the targeted species which by instance you could also think that there might be some implications in terms of the non-target species.

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[12.15 pm]

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So it becomes another factor into the weight of evidence assessment and the reason why we landed on what, I want to also highlight again, is a very stringent suite of controls and one of the first cases where there are such controls for an application.

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It is difficult to provide an answer that is a bit more systematic but for us in the context of Method, it is something which was considered into weight of evidence overall for assessment here. You think about the timelines and you will find this application was lodged in 2019. I think the fact we are talking about this and considering it today is a reflection of the exchanges and the request for information, and the overall thinking we have had in relation to this particular application.

45

MR MACLEOD: The other issue with adjuvants is with respect to drift control agents often used by helicopters by forming large-sized droplets. There is air drift nozzles used with specific surfactants to effect the formation of

larger droplets. There is no consideration by the applicant that that will be a practice in use?

MR BERARDOZZI: Yes, I'm not sure if the question is more for the applicant then.

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MR MACLEOD: So there was nothing given to the EPA to suggest that there is more there involved?

MR BERARDOZZI: Not that I can remember there, no.

10

MR MACLEOD: The final one was to do with the controls. Canterbury, in particular, and the South Island when they spray river beds for gorse and broom, normally publicly notify -- the major regional councils normally publicly notify those sprayings before they occur and ask for any objections. Is that a sufficient control that the EPA could apply?

15

MR BERARDOZZI: The discussion around notification and controls is an interesting one in that as far as we understand this is linked to the specific regional council plans and that there is a bit variation between the different ones, what the requirements are and who needs to be notified, when. Yes, it is difficult to come up with a notification requirement that would cover all these aspects and that would need to be applied consistently across all the regional councils. We haven't considered that more specific for the case of Method on the basis of the specific controls we have suggested and the lack of overall toxicity that was identified for human health and the aquatic environment.

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But this is a big point there and we do realise that there is some variations from the different regional councils and some already existing practices there.

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MR MACLEOD: Thank you.

CHAIR: Okay, thank you, everyone. Well, according to the draft schedule we are just about right on time. So we will pause for a lunch break now and reconvene -- I think we have Mary Hobbs lined up to be on the phone at 12.45, so if we can reconvene then we will follow the programme. Thank you very much, enjoy your lunch.

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ADJOURNED [12.19 pm]

RESUMED [12.44 pm]

CHAIR: Okay, thanks, everyone. Looks like we've got most people back and, Marree, have we got Mary Hobbs on the phone?

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MS QUINN: No, we don't. She unfortunately has -- I did send you a message but you haven't seen it obviously. But unfortunately she's had other

meetings pop up today so is unable to attend. She did ask that her submission be read out but everyone should have seen that already anyway, as it was shared on the website. So we could move on to the next submitter, if they are happy with that.

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[12.45 pm]

CHAIR: Great. That sounds good to me, Marree. Don, and have you got Barry with you or are you ready to go or do you need more time?

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MR MACLEOD: No, I would have expected Barry a bit later but, okay, I'm prepared to go whenever. If you want us to go now we'll go now.

CHAIR: Yes, let's go now.

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MR MACLEOD: Is Marree going to put up the presentation?

MS QUINN: If you can share, Don, that would be great, otherwise yes, I can put it up for you.

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APICULTURE NEW ZEALAND PRESENTATION

DON MACLEOD PRESENTING

MR MACLEOD: I'll have a go. No, that's not what I want. Looks like we might have it. I'm representing Apiculture New Zealand's Science and Research Focus Group. Currently at the moment we have a group of eight or nine members. Barry Foster is the chair or he's going to be the former chair next month. I've got Dr Oksana Borowik, beekeeper and geneticist; Dr Pike Brown, economist from Landcare Research; Martin Laas is a beekeeper and our future chair at Midland Apiaries in Ashburton; John McKay is a technical director of dnature laboratories. He does PCR analysis. I'm an amateur beekeeper but I have worked in the chemical industry for many years. Tony Wright, Head of Industry Affairs at Comvita and he's a board member of Apiculture New Zealand, and Megan Grainger who's a senior lecturer at University of Waikato.

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Having a bit of fun with my down button. I'm not too sure. Why's that not going down? Now it went too far. Sorry, I'm just having a little bit of a technology problem here with ...

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Our work as a science and research focus group is promoting new research on New Zealand bees. We want to take relevant research both in New Zealand and overseas; grower control, wasp biocontrol. That is currently being researched at the moment. We, two years ago, released a biocontrol for the giant willow aphid, reviewing the current definition for manuka honey with MPI, submissions to EPA and MPI

on issues of pesticides affecting New Zealand honey bees and bee products, we follow up on bee kills and we educate beekeepers.

5 The application defines the areas that interest beekeepers in particular. We value areas with a mix of weeds and/or native vegetation as good feed areas and foraging areas for honey bees. They are valued for collection of honey.

10 We do support the introduction of control measures for wilding pine and other introduced brush weeds, the reason our native flora produces New Zealand's highest value of honey and some of the world's highest value honey. That native flora gets crowded out with wilding pine infestation, so it's extremely important that we protect that native flora around New Zealand.

15 **[12.50 pm]**

20 Method's a broad-spectrum soil active herbicide and it remains in the environment for some time. Broadcast applications and the addition of spray tank adjuvants, the management of pesticide foliar spread, sticking the herbicide to the leaf, drift control and by controlling droplet size are of concern and have been for a number of years. The EPA Committee that's hearing this today recommended in 2012 that the EPA should review adjuvants because they're currently not regulated at all. Still nothing's been done.

30 Our number one concern is residues of Method in bee products. We got a real wake-up call three, four years ago when we detected glyphosate in New Zealand honey. It's caused beekeepers extra costs for testing and analysis for international markets. It's even had honey being sent back from international markets, particularly Japan, and from buyers in Europe if it wasn't glyphosate free.

35 We don't want to see the same thing happen again. Our concern, when the earlier question that I asked the applicant about analysing nectar and pollen for residues of Method active ingredient, still stands as important information that would help us understand where it's going to go.

40 We were blindsided with glyphosate. It would be in the country since late 1980 and it was only in the last four to five years we realised it was in our honey and in a lot of other foods.

45 It's been confirmed that Method will not be registered as a pesticide and that has a concern because this means that no MRL will be set in New Zealand for any product, whether it's beef and/or honey, if it's harvested off conservation land.

Our major concerns, the risk assessment that I mentioned to the EPA and the risk analysis is not clear and transparent. We are concerned that there are, like the EPA, significant data gaps for the application for Method.

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As it says, the safety of Method herbicide has not been demonstrated for non-target arthropods therefore the risk is unknown. Yet environmental risk analysis dismisses this risk with no full installation other than we're going to put some controls in place. Lack of information to me should signal a red flag for environmental concern in a major way.

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We believe the labelling should be extremely clear. We support the Agcarm and Agriculture of New Zealand recommendations and we would like to see 4, 5 and 6 applied to the label. At the moment it's basically 4 and 5; never treat crops and flower, particularly gorse, broom and thistles; check nearby for foraging bees on flowering weeds, eliminate weeds by mowing or tillage. We note that that may be impossible in the areas where Method will be used. Never apply pesticides during daylight hours when bees are actively foraging. I think the controls should be made very clear that that is the case.

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The other thing is in pine areas not to apply it while the pine tree is emitting pollen, particularly in the couple of months before Christmas. Pine pollen is taken back by bees when they can't find other sources of pollen to the hive and, as anyone who has got asthma or an allergy knows, pine pollen can be a major problem in those two months before Christmas.

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[12.55 pm]

We don't know whether the pollen will contain any active ingredient and if they do take it back it will be introduced into the hive. It may affect larvae.

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I think we should wake up. The use of spray tanks should be shown to be required. Most pesticides recommend it but they don't tell you why. Data on why they are used should be submitted to the EPA and testing for honey bees, for example, should include the spray tank mixture, not necessarily what is in the packet. I think the whole chemical industry has to wake up on that issue and it's going round blind at the moment and not doing anything. As you can see from the applicant's data, there was a variation of Method used in the trials. If you've got no data on the tank mix, no use. Very simple in my opinion. No data, data gaps, or data gaps on bee things, no use.

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Transparency in use, local advertising to advise of spraying, and this I think could be done particularly in a conservation estate in large areas.

In the South Island, councils already publicly notify aerial river bed spraying of weeds, particularly broom and gorse. I think that would be a very worthwhile control to add. I think that's the lot.

5 CHAIR: Great, thank you very much, Don. Now can I invite Dr Byrom, do you have any questions please?

QUESTIONS

10 DR BYROM: Thank you very much for the presentation and also for the submission. I don't have a lot of questions. One of them was around the labelling. I did just wonder about your --

15 MR MACLEOD: I'm not getting your sound.

DR BYROM: -- a realistic idea of the practicality -- hello?

DR TREDWELL: I can hear you, Andrea.

20 MR MACLEOD: Can you repeat it, start again please?

DR BYROM: It's just a quick question on the labelling. I wondered around the practicality of not applying this product during daylight hours. Realistically, do you think that's an option, especially when it comes to
25 aerial spraying.

MR MACLEOD: The aerial spraying for the bees is normally about an hour before sunset and an hour after sunrise. That's what we're talking to on this. Bees
30 don't forage in that time of the day. Bumblebees do but honeybees are not normally foraging, they're back in the hive.

DR BYROM: Okay, thank you. Then a really minor question, what does MRL mean? It wasn't actually spelled out or explained.

35 MR MACLEOD: Maximum residue limits.

DR BYROM: Okay, thank you.

MR MACLEOD: That's the residue limits in food and it's applied by the New Zealand
40 Food Safety group in MPI.

DR BYROM: Thanks, that's all my questions, Mr Chair.

45 CHAIR: Thanks, Andrea. Dr Tredwell?

DR TREDWELL: Thank you, Derek. Don, just one point just on the labelling again. Given what we've heard from the EPA and the discussions we've had about labelling, with what's been discussed now, does that pretty much

satisfy where you and your organisation are coming from with labelling requirements?

5 MR MACLEOD: We would like to see more stringent labelling requirements but we've already negotiated a position with Agcarm and we support them and they have published it and that's the link. I can give you the link, it's on the Agcarm website, which has got nine recommendations for labelling requirements. We're only looking at the middle three at the moment.

10 DR TREDWELL: Okay, all right. Thank you, that's fine. Thanks.

CHAIR: Great, thanks, Stephen. Moving on now to the EPA. Do you have any questions for Don?

15 MR LAPAGE: No questions here.

[1.00 pm]

20 CHAIR: Okay. And there's no other submitters present, so that kind of wraps that up. Unless did I overlook the applicant? I did, I beg your pardon.

MS FITZGERALD: No further comments from us, thank you.

25 CHAIR: Okay, well, so we're through with the submitters' presentations, so we're a little bit early. The programme was suggesting a short break. I'll take your advice, Margaret, or the Bayer team, we're up to the place where you have the right of reply. Do you need a break to prepare that or are you ready to go right away?

30 DR TREDWELL: Margaret, you're on mute.

MS FITZGERALD: Sorry, let me just convene one moment with my colleagues, just one moment. Could we actually have a break, thank you, just to prepare?

35 CHAIR: Yes, certainly. How long would you like?

MS FITZGERALD: Well, 15 minutes I think is what's on the agenda there/

40 CHAIR: Okay, we can reconvene at 1.15 pm.

MS FITZGERALD: Okay, thank you.

45 CHAIR: Thank you, everyone, see you then.

ADJOURNED [1.01 pm]

RESUMED [1.10 pm]

MS FITZGERALD: -- comes back.

5 CHAIR: Great, thanks, Margaret. Let me just have a look see who we've got here. We seem to have most people as far as I can tell. Marree, you're the expert on this, have we got everyone back?

10 MS QUINN: Hi, Derek. Yes, we seem to. I'm just looking as well. There doesn't seem to be anyone who is missing except for Te Mauri at the moment, so we're just going to go get him.

CHAIR: Okay. Thanks, Marree.

15 MS QUINN: I'll let you know when he's here.

CHAIR: Yes, thanks.

MS QUINN: Okay, so we are all back on board. Thank you, Derek.

20 CHAIR: Great, thanks, Marree. Over to you, Margaret.

APPLICANT'S RIGHT OF REPLY

25 MS FITZGERALD: Thank you, Mr Chairman. On behalf of my Bayer colleagues, thanks very much to you and the Decision-making Committee for conducting the hearing today. It was the first experience of a public hearing for some of us to participate in and we've really appreciated this transparent process. Thank you also very much to the EPA staff for the thorough assessment of our dossier and the excellent presentation.

30 We have noted the statement from the EPA that Method will be one of the most stringently controlled herbicides in New Zealand. We are confident that with the controls, labelling and stewardship, the product can be used safely for the benefit of New Zealand land managers. We hope from the evidence and discussions today you will be able to make a decision of approval for Method very soon. Thank you.

35 CHAIR: Okay, thank you much, Margaret. Now, decision-making colleagues, do you have any final questions? Dr Byrom?

40 DR BYROM: No questions from me at this stage, no.

CHAIR: Thank you. And Dr Tredwell?

45 DR TREDWELL: No, that's fine, thank you very much.

CHAIR: Okay, well at that point I will now invite Te Mauri to give us the closing karakia please.

MR APIATA: (Māori content – will be inserted when script finalised)

5 So, yes, just acknowledging everybody who's present today, our Decision-making Committee, the applicant, the submitters, who have all joined us today to share their kōrero, so just to acknowledge that before we close down with a karakia. So I will now close it down.

(Māori content – will be inserted when script finalised)

10 CHAIR: Kia ora, thanks very much, Te Mauri. Thank you to all participants for your excellent presentations and participation. I think it has been a pretty helpful day to date. So I am about now to adjourn the hearing. I was just messaging you, Marree, to check. I think we, as the
15 Decision-making Committee, would perhaps like 15 minutes to 30 minutes to talk together. Can we use the link that you set us up this morning on Teams or do we need to set up a new one?

[1.15 pm]

20 MS QUINN: No, you can use that, Derek, that's definitely fine. Would you like them to set a meeting up afterwards for all of us?

25 CHAIR: With the EPA, yes, the GMC and the EPA. If you can maybe give us half an hour at this stage and then we'll join you there.

MS QUINN: Perfect, that's lovely.

30 DR BYROM: Could I make one request, Mr Chair, could we do it via Zoom if possible rather than Teams, because it was working really badly this morning?

CHAIR: Okay.

35 MS QUINN: Yes, no problem, I can set that up.

CHAIR: Okay, so you'll send us a new appoint for Zoom for just the three of us to begin with, Marree?

40 MS QUINN: I will do.

CHAIR: Great, we will wait for that. And with that I do declare the hearing adjourned and again thank you all very much for your participation.

45 **MATTER ADJOURNED AT 1.16 PM**