To release the rust fungus *Uromyces pencanus* as a biological control agent to control Chilean needle grass

**Submission Number** | **Submitter** | **Submitter Organisation**
---|---|---
SUBMISSION126929 | Rod Hitchmough | Department of Conservation
SUBMISSION126932 | Oliver Sutherland | Te Rūnanga o Ngāi Tahu
SUBMISSION126933 | Randall Milne | Environment Southland
SUBMISSION126934 | Bill Bayfield | Environment Canterbury
SUBMISSION126935 | Joint submission: Bob Douglas, Chris Houston, Dave Hodges | Federated Farmers of New Zealand, Beef + Lamb NZ, Dairy NZ
From: Rod Hitchmough [mailto:rhitchmough@doc.govt.nz]
Sent: Friday, 9 February 2018 3:28 PM
To: Diane Totton <Diane.Totton@epa.govt.nz>; Plant Imports <PlantImports@mpi.govt.nz>; Verity Forbes <vforbes@doc.govt.nz>
Cc: Barry Wards (MPI) <Barry.Wards@mpi.govt.nz>
Subject: RE: APP203314 – Chilean needle grass biological control agent. Open for Submissions

Dear

Thank you for the opportunity to comment on the application APP203314 – to import and release the Chilean needle grass (Nasella neesiana) biological control agent Uromyces pencanus.

This grass has potential to become a weed affecting biodiversity values as well as agricultural production if it continues to spread.

We note that importation of this rust species has already been approved once (in 2011) but that approval lapsed before the importation could take place.

We note that host range testing has in general terms been extremely thorough, and has demonstrated a reassuring level of host specificity, even extending to specific strains within the host species.

However, we note that only one native New Zealand species of Stipeae has been included in the host range testing. Chilean needle grass belongs to the Tribe Stipeae. New Zealand has three native species of Stipeae:

Austrostipa stipoides, native but non-endemic species, Not Threatened.

Anamanthele lessoniana, endemic species and endemic monotypic genus, Threatened; Nationally Vulnerable.

Achnatherum petriei, endemic species, Naturally Uncommon.

Of these three, A. stipoides has undergone host testing and been found to not become infected by Uromyces pencanus. However, it is not clear whether New Zealand material of this non-endemic species has been tested. The molecular-based tree of Jacobs et al. (2007) indicated that the generic-level taxonomy of the Stipeae is a mess, with members of many genera scattered in different parts of the tree and with some genera nested within others. Jacobs et al. (2007) also found substantial genetic divergence within several species, indicating that further splitting of some species was likely. Therefore a single provenance may not be representative of all populations of a species. No testing of A. lessoniana or A. petriei is mentioned in the application. Some Achnatherum species are very close to Nasella in the molecular-based tree of Jacobs et al. (2007).

We therefore request additional host testing of A. lessoniana and A. petriei, and of New Zealand-sourced material of A. stipoides if this has not already been tested. While the general host specificity results give a degree of confidence that these species will not be at risk, we consider that the greater certainty provided by specific testing is desirable.

Subject to those three native species being shown to not be vulnerable to significant infection by Uromyces pencanus, we support the application to allow release of this rust as a biological control agent for Chilean needle grass.
Hello Diane

We don’t feel that it’s necessary for us to be heard at any hearing that may be held. However, if there’s any lack of clarity about our submission we’re happy to clarify.

Regards

Rod
SUBMISSION ON APP203314 – IMPORTATION AND RELEASE OF BIOCONTROL AGENT FOR CHILEAN NEEDLE GRASS

DATE 21 February 2018

AUTHOR – Oliver Sutherland
Ngai Tahu HSNO Komiti

Sponsor – Kara Edwards
General Manager – Te Ao Tūroa I Te Kaihautū o Te Ao Tūroa I Te Rūnanga o Ngāi Tahu
Kara.edwards@ngaitahu.iwi.nz | Phone 03 366 4344 | PO Box 13-046 | Christchurch

Hearing: Te Runanga o Ngāi Tahu do not call for a hearing; but will attend if one is held
EXECUTIVE SUMMARY

The original proposal for the introduction of the rust fungus *Uromyces pencannus* to control Chilean needle grass, *Nasella neesiana* was supported at the time by Ngāi Tahu in 2010-11, and was ultimately approved by the Environmental Risk Management Authority. The present application outlines the continuing spread of the weed and reaffirms, with new data, the safety of the proposed biocontrol agent and potential benefits from its release. We recommend that the present application be approved.

TE RŪNANGA O NGĀI TAHU

This response is made on behalf of Te Rūnanga o Ngāi Tahu (Te Rūnanga). Te Rūnanga is statutorily recognised as the representative tribal body of Ngāi Tahu Whānui and was established as a body corporate on 24th April 1996 under section 6 of Te Rūnanga o Ngāi Tahu Act 1996 (the Act). We note the following relevant provisions of our constitutional documents:

a. Section 3 of the Act States:
   This Act binds the Crown and every person (including any body politic or corporate) whose rights are affected by any provisions of this Act.

b. Section 15(1) of the Act states:
   Te Rūnanga o Ngāi Tahu shall be recognised for all purposes as the representative of Ngāi Tahu Whānui.

c. The Charter of Te Rūnanga o Ngāi Tahu (1993, as amended) constitutes Te Rūnanga as the kaitiaki of the tribal interest.

Te Rūnanga o Ngāi Tahu constitutes 18 Rūnanga representing geographical areas, generally based around traditional settlements.

Ngāi Tahu Values which dictate its approach to all issues are as follows:

a. Whanaungatanga (*family*)
   Respect, foster and maintain important relationships within the organisation, within the iwi and within the community.

b. Manaakitanga (*looking after our people*)
   Respect each other, iwi members and all others in accordance with our tikanga (customs).

c. Tohungatanga (*expertise*)
   Pursue knowledge and ideas that will strengthen and grow Ngāi Tahu and our community.
d. **Kaitiakitanga (stewardship)**
   Work actively to protect the people, environment, knowledge, culture, language and resources important to Ngāi Tahu for future generations.

e. **Tikanga (appropriate action)**
   Strive to ensure that Ngāi Tahu tikanga of is actioned and acknowledged in all of our outcomes.

f. **Rangatiratanga (leadership)**
   Strive to maintain a high degree of personal integrity and ethical behaviour in all actions and decisions we undertake.

2.4 Te Rūnanga respectfully requests that this response is accorded the status and weight due to the mana whenua status of the tribal collective, Ngāi Tahu Whānui.

3 **TE RŪNANGA STATEMENTS OF POSITION ON APP203314**

**Introduction**

3.1 Chilean needle grass is a serious weed of pastoral agriculture. The seeds of the plant get into and damage the pelts of stock as well as becoming lodged in the eyes of stock and dogs. It also forms dense stands which displace desired pasture species. Besides infesting 130 sites in the North Island, the weed is now found at 170 sites in Marlborough, totalling 2804ha, and in North Canterbury where it now affects 300ha in Cheviot, Parnassus and Omihi. The applicant believes that “more than half the Canterbury region is at risk of invasion due to climate suitability and the movement of seed by various pathways”. Perhaps 15 million ha throughout the country would be suitable for invasion. Although not presently a problem in native grasslands, it could become so. Chilean needle grass poses two threats to Ngāi Tahu. The potential risk of disruption to farming activities and economic losses face pastoral farmers. At the same time, the probability that the weed may spread into native grasslands and thus affect taonga species and ecosystems poses a threat to biodiversity values of Ngāi Tahu as the weed expands into the takiwā. This risk increases with global warming.

3.2 The weed is difficult to eradicate. Present control strategies include herbicides, grazing, mowing and mulching. Efforts at stemming the spread of the weed through these measures are only partially successful. Biological control through the release of a specific agent – in this case a pathogen – could be effective in controlling the weed and reducing its impacts. This approach to the control of weeds and insect pests has been supported by Ngāi Tahu in the past, particularly as it is in line with our wish to see a reduction in the use of chemical pesticides. The approach was also consistent with the document ‘Māori Cultural Principles: Biological Control Agent Releases’ (February 2015) produced by the EPA’s Māori Reference Group, on which Ngāi Tahu was represented.
3.3 Proposed biocontrol agent

The rust fungus *Uromyces pencannus* is a highly host-specific pathogen which, in its home range, causes severe infections and foliar death of Chilean needle grass. The experimental evidence shows that the fungus attacks only Chilean needle grass and, indeed, only some strains of the weed. This degree of host-specificity indicates that the rust fungus does not attack other grasses, native or otherwise. The applicant concludes: 1) there is no evidence to suggest that the rust can complete its development on non-target species; and 2) the risk that the rust fungus will infect valued native plants in New Zealand is insignificant.

3.4 Māori engagement

A range of iwi commented on the original proposal to release this agent in 2010, including Ngāi Tahu. At the time, our position was positive towards the application which was, in due course, approved by the Environmental Risk Management Authority (2011). As mentioned above, a Māori Reference Group was convened by the EPA to consider biological control. The present application seems aligned with the principled determined by the Reference Group.

3.5 Evaluation of risks and benefits

The risks associated with the introduction of *U. pencannus* to control *Nasella neesiana* are negligible. While the economic benefits of control are not (at present) great, the longer term view favours any reduction in the spread of the weed, especially in the context of climate change. Ngāi Tahu economic and biodiversity values, especially in the Canterbury region, in the rohe of the Kaikōura Rūnanga, which would be under threat from Chilean needle grass, could be expected to be protected by a successful biological control release.

3.6 Post-release evaluation

As with all biological control programmes, we would want to be reassured that the applicant has in place a sound post-release evaluation of establishment and impact. The application provides that assurance (p. 33), which we fully support.

4 RECOMMENDATIONS ON APP203314

That the application be approved.

5 HEARING

We do not call for a hearing, but will attend if one should be held.
Dear EPA

Below is a submission in support of the application APP203314

Contact person for the submission is
Randall Milne
c/- Southland Regional Council
Private Bag 90116
Invercargill 9810
Phone: 03 211 5115
Email: Randall.Milne@es.govt.nz

I support the application
I do not wish to be heard in support of my submission

The reasons for making my submission are:
Southland Regional Council wish to support the application by Marlborough District Council to import and release the rust fungus *Uromyces picensus* in New Zealand to control Chilean needle grass (CNG) or *Nassella neesiana*.

CNG is currently not found in Southland, though eco-climatic modelling indicates large areas of the region are susceptible to invasion of this hardy tussock-forming grass. Southland Regional Council recognise the risk CNG presents to pastoral farming in Southland and supports this application as a means to help reduce this risk. We recognise the current control options for CNG are limited and that the rust fungus will provide another tool to help reduce the current distribution, and prevent further spread, of CNG.

Southland Regional Council believes the benefits of importing and releasing the rust fungus outweigh any potential risks the fungus presents. We acknowledge the research and evidence included in the application indicating the rust fungus has a narrow host range confined to the *Nassella* genus, there is no evidence to suggest the rust can complete its life-cycle on non-target species, and the risk that CNG will infect valued plants in New Zealand is insignificant.

I wish the EPA to approval the application to import and release the rust fungus *Uromyces picensus* to control Chilean needle grass

Randall Milne
Senior Biosecurity Officer - Pest Plants
Environment Southland  *Te Tāiao Tonga*

P 03 211 5115 | DDI 03 211 5425 | M 021 784 989
Cnr Price St & North Rd, Private Bag 90116, Invercargill 9840
randall.milne@es.govt.nz | www.es.govt.nz | facebook.com/environmentssouthland
Once you have completed this form
Send by post to: Environmental Protection Authority, Private Bag 63002, Wellington 6140
OR email to: submissions@epa.govt.nz

Once your submission has been received the submission becomes a public document and may be made publicly available to anyone who requests it. You may request that your contact details be kept confidential, but your name, organisation and your submission itself will become a public document.

<table>
<thead>
<tr>
<th>Submission on application number:</th>
<th>APP203314</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of submitter or contact for joint submission:</td>
<td>Bill Bayfield</td>
</tr>
<tr>
<td>Organisation name (if on behalf of an organisation):</td>
<td>Environment Canterbury (Canterbury Regional Council)</td>
</tr>
</tbody>
</table>
| Postal address: | PO Box 345  
| | Christchurch 8140 |

| Telephone number: | 0800 324 636 |
| Email: | Bill.Bayfield@ecan.govt.nz |

☐ I wish to keep my contact details confidential

The EPA will deal with any personal information you supply in your submission in accordance with the Privacy Act 1993. We will use your contact details for the purposes of processing the application that it relates to (or in exceptional situations for other reasons permitted under the Privacy Act 1993). Where your submission is made publicly available, your contact details will be removed only if you have indicated this as your preference in the tick box above. We may also use your contact details for the purpose of requesting your participation in customer surveys.

The EPA is likely to post your submission on its website at www.epa.govt.nz. We also may make your submission available in response to a request under the Official Information Act 1982.
I support the application

☐ I oppose the application

☐ I neither support or oppose the application

The reasons for making my submission are¹: (further information can be appended to your submission, see footnote).

Environment Canterbury is in support of the importation and release of uromyces pencanus for the purpose of managing the density and spread of Chilean needle grass (CNG). The Canterbury region is adversely impacted by CNG and we are continuing to see an increase in number of sites with infestations of CNG.

We consider that the introduction of this rust may assist in reducing the spread and density of this pest and would result in economic, and biodiversity benefits for the region. There are significant annual costs of control and inspection for Environment Canterbury as well as for affected land occupiers to control the incidence of CNG.

There are significant production, recreation and amenity benefits from controlling Chilean needle grass. CNG reduces the livestock carrying capacity of pastures and its sharp seeds can also injure livestock. The measures that are required to prevent the spread of CNG have significant impact on affected land occupiers, including extensive hygiene procedures, restrictions on stock movement and sale and restricted access for recreation purposes.

Environment Canterbury and partners also undertake extensive awareness and on farm biosecurity programmes to prevent the spread of CNG beyond its known locations.

We consider that the availability of this biocontrol will greatly assist with the control of existing sites of CNG in Canterbury and will prevent further spread throughout the South Island.

All submissions are taken into account by the decision makers. In addition, please indicate whether or not you also wish to speak at a hearing if one is held.

☐ I wish to be heard in support of my submission (this means that you can speak at the hearing)

☒ I do not wish to be heard in support of my submission (this means that you cannot speak at the hearing)

If neither box is ticked, it will be assumed you do not wish to appear at a hearing.

I wish for the EPA to make the following decision:

Approve the importation and release of uromyces pencanus for the purpose of controlling Chilean Needle Grass.

¹ Further information can be appended to your submission, if you are sending this submission electronically and attaching a file we accept the following formats – Microsoft Word, Text, PDF, ZIP, JPEG and JPG. The file must be not more than 8Mb.
Submission on Application APP203314

To release the rust fungus Uromyces Pencanus as a biological control agent to control Chilean Needle Grass
To: Environmental Protection Authority  
Private Bag 63 002  
Wellington 6140  
Email: submissions@epa.govt.nz

Submission on: Application APP203314

To release the rust fungus Uromyces Pencanus as a biological control agent to control Chilean Needle Grass

From: Federated Farmers of New Zealand  
Beef & Lamb NZ  
Dairy NZ

Date: 12 March 2018

“We” (Federated Farmers, Beef + Lamb NZ and Dairy NZ) wish to be heard in support of this submission

Contacts for Service:

Bob Douglas  
Regional Policy Advisor, High Country  
Federated Farmers of New Zealand  
Ph 03 688 4096  
bdoyle@dairynz.co.nz

Beef + Lamb NZ Contact  
Dr Chris Houston  
Manager – Technical Policy  
Beef + Lamb NZ Ltd.  
Wellington  
Ph 021 562 871  
chris.houston@beeflambnz.com

Dave Hodges  
Project Manager – Biosecurity  
Dairy NZ  
Hamilton  
Ph 027 801 5921  
Dave.Hodges@dairynz.co.nz
SUBMISSION TO THE ENVIRONMENTAL PROTECTION AUTHORITY
ON THE APPLICATION BY MARLBOROUGH DISTRICT COUNCIL
TO IMPORT AND RELEASE THE RUST FUNGUS UROMYCES PENCANUS
FOR THE CONTROL OF CHILEAN NEEDLE GRASS

1. RECOMMENDATION
1.1 “We” (Federated Farmers NZ, Beef + Lamb New Zealand and Dairy NZ) request that the application be approved.

2. INTRODUCTION
2.1 We welcome the opportunity to submit to the Environmental Protection Authority on the application to release the rust fungus Uromyces Pencanus as a biological control agent to control Chilean Needle Grass (CNG).

2.2 This submission has been prepared by Federated Farmers NZ, Beef + Lamb New Zealand (B+LNZ) and Dairy NZ. The three organisations represents significant proportion of the country’s primary production sector in the beef, sheep, dairy and arable sectors.

2.3 The beef and sheep meat production sector comprises 12,300 commercial farming businesses creating around 35,000 jobs. The sheep and beef sector is New Zealand’s second largest goods export earner with over $8 billion in export revenue for the year ending December 2017.

2.4 The dairy industry in New Zealand is a major exporter of milk products. Annual export revenue for New Zealand from dairy products has ranged from $12.2 to $17 billion dollars over the last five years (June ended years), and this has accounted for 26-34% of New Zealand’s merchandise trade annually (29% average on last five seasons).

   The economic viability of the pastoral sector is dependent on highly efficient, low input pasture production. Invasive weeds are increasingly pertinent in this respect and CNG is no exception, posing a significant threat to production, indigenous biodiversity and animal welfare

2.5 It is noted that a similar application to this was made in 2011.

2.6 Although the 2011 application was approved, we understand that practical problems associated with the importation of the rust resulted in the expiration of the approval.

2.7 Federated Farmers supported the application in 2011 subject to specified assurances. Its submission expressed some concerns with the release of Uromyces Pencanus around host specificity and whether benefits of release out weighed any risks. The main concern was that it was unknown whether in the New Zealand climate the rust fungus could revert to new hosts, such as commercial arable species or beneficial pasture. If so, this could prove devastating to farmers and our conservation estate alike.
2.8 It is noted that, in relation to these concerns, the EPA risk assessment process proved that no significant risks had been identified and the effectiveness of the imported South American rust species far outweighed any long-term risks to the environment or farming.

2.9 We also note that research undertaken since the 2011 application further allays the concerns expressed within that (2011) submission. For example, refer to Anderson et al. 2017 in section 3.1.4 of the application.

3. REASONS FOR SUBMISSION

3.1 We support this application from environmental, animal welfare and economic perspectives.

3.2 CNG is a perennial grass of South American origin which is considered an invasive pest plant in New Zealand. It is an aggressive plant that will out-compete native grassland species and other native biodiversity if allowed to become established.

3.3 In addition, it poses a significant threat to the viability of New Zealand’s primary production industry. Its agricultural impacts include reduced pasture and crop yields, reduced livestock carrying capacity as well as livestock health and welfare issues.

3.4 The sharp seeds which give the plant its common name, contaminate wool and have the potential to blind livestock. The seeds can also penetrate the skin of animals and move into body muscles causing abscesses and the downgrading of pelts and carcasses. Mature plants are relatively unpalatable to stock, reducing pasture productivity and stocking rates.

3.5 We are unaware of any redeeming quality that CNG possesses and, in view of the foregoing, fully support any proposal for its eradication.

4. OPPORTUNITY

4.1 We suggest that the country is currently in an ideal position to ensure CNG does not develop into a major pest menace. Significant action sooner, while the problem is relatively small and manageable, rather than later will ensure this can be avoided.

4.2 While the currently known distribution of CNG covers just four regions comprising less than 5,000 ha. it does have the potential to become established across some 15 million hectares of land nationwide (Bourdôt et al. 2010) because of favourable climatic and environmental conditions. Within the currently affected regions, new infestations are being identified every year, suggesting that the current regulatory tools and resources available within each region to manage Chilean needle grass are not likely to eliminate the spread.

4.3 While Chilean needle grass seeds are not well adapted for dispersal by wind and tend to fall close to the parent plant it is believed that the most frequent vectors for wider dispersal
include people, vehicles, animals, machinery and equipment as well as soil, plant matter and water. We suggest that eradication of the parent plant, with the help of biological control as requested in the application, will ensure this method of spread can be avoided.

5. CONCLUSION

5.1 We consider that the application has demonstrated that control of CNG will be beneficial to New Zealand from environmental, animal welfare and economic perspectives and that the use of the rust fungus *Uromyces Pencanus* as an agent to help achieve this poses no environmental threat.

5.2 Note that a small proportionate loss of dairy or red meat export revenue would have a significant impact on the country’s economy. The spread of Chilean Needle Grass into areas of New Zealand where significant farming activities occur threatens the revenue of both dairy and dryland farmers and the New Zealand economy.

5.3 We note that the ability of NZ-produced red meat to command a premium in overseas markets is partly attributable to perceptions of the country’s environmental footprint. Well targeted biocontrol agents are generally more acceptable than herbicides as they are likely to be more specific and sustainable.

5.3 Provided that EPA is satisfied that any risks to non-target existing productive pasture are acceptable, we support the application to release the rust fungus *Uromyces Pencanus* as a biological control agent to control Chilean Needle Grass.

6. ABOUT OUR ORGANISATIONS

6.1 Federated Farmers of New Zealand is a pan-sector primary sector organisation that represents farming and other rural businesses. Federated Farmers has a long and proud history of representing the needs and interests of New Zealand farmers. The Federation aims to add value to its members’ farming business.

6.2 B+LNZ is the industry good organisation representing around 12,300 commercial sheep and beef farming businesses. B+LNZ is funded by farmer levies to help farmers make informed business decisions and to promote their collective interests.

6.3 Dairy NZ is the industry good organisation representing New Zealand’s dairy farmers. The organisation’s purpose is to secure and enhance the profitability, sustainability and competitiveness of New Zealand dairy farming. Dairy NZ delivers value to farmers through leadership, influencing, investing and partnering with other organisations and through its own strategic capability.

ENDS