

Form: Call for expression of interest to prescribe certain organisms as ‘not new’ organisms

for the purposes of the Hazardous Substances and New Organisms (HSNO) Act

Introduction

Fill this form if you or your organisation seeks to make a proposal to prescribe certain new organisms as ‘not new’ organisms.

Species are classed as new organisms under the Hazardous Substances and New Organisms (HSNO) Act if they were not present in New Zealand before 29 July 1998. As such, you require HSNO Act approval for propagation or distribution of the organism.

To change its ‘new’ organism status (which means that an organism will no longer be regulated as ‘new’ under the HSNO Act), an organism must be deregulated under section 140(1)(c) of the HSNO Act, by an Order in Council given by the Governor General prescribing organisms that are not new organisms for the purposes of this Act.

The Environmental Protection Authority will use the information in this form in the decision-making process (which is likely to include a public consultation component). Clearly label and include any confidential information as a separate appendix.

Proposing a candidate new organism does not guarantee the status of the organism will be changed. Organisms will be assessed on a case-by-case basis. We may advise you to apply using another pathway if there’s an appropriate one available.

Submission details

Once you have completed this form, you may:

- send by post to: Environmental Protection Authority, Private Bag 63002, Wellington 6140
- or email to: submissions@epa.govt.nz

Submissions open on the 22 March and close on 4 June at 5.00 pm.

Privacy Act

We are collecting your personal information in your submission relating to prescribing an organism as ‘not new’, and will use the information you provide in this form to contact you in relation to your submission. We may also use your contact details for the purpose of requesting your participation in customer surveys. We will store your personal information securely. Your information may be made public unless you select the box below to request that we keep it confidential. You have the right to access the personal information we hold about you and to ask for it to be corrected if it is wrong. If you would like to access your personal information, or have it corrected, please contact us.

Please keep my personal information confidential.

Part 1

Name of person or organisation making the proposal: NZ Plant Producers Inc

Postal address: PO Box 3443, Wellington 6140

Date: 5/05/2021

Part 2

Details of the new organism(s) proposed to be prescribed as 'not new' organism(s)

Please complete this section for each organism proposed to be prescribed as a not new organism.

1. Name of the organism

Pilea peperomioides

2. Why do you want to prescribe this organism as 'not new'?

Including:

- a. Is there any information on the economic or environmental impacts of the organism?
 - b. What is the benefit of making this organism 'not new'?
 - c. Can these benefits be quantified?
 - d. Can these benefits be achieved by alternative means?
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- a. *Pilea peperomioides* is not approved by the Environmental Protection Authority and was not recorded as present in Aotearoa New Zealand when the Ministry for Primary Industries (MPI) Plants Biosecurity Index (PBI) was developed in 1998. It was found to be widely distributed among houseplant enthusiasts during an MPI-led investigation in 2018. MPI Plants & Pathways Risk Analysis team assessed the biological risk of *Pilea peperomioides* and determined that this plant would pose a negligible risk to the economy or environment, were it to establish or naturalise in the outdoor environment.
 - b. The expected benefits to New Zealanders, society and the economy are improved well-being, access to quality plants at affordable prices, job creation and tax revenue, and savings in compliance enforcement time and resources.
 1. More people are living in apartments and rented accommodation, often with small gardens or no outdoor garden space. Indoor plants are an essential connection to the natural environment.

Tupu ā-whare/houseplants improve people's indoor spaces and create a sense of taha wairua/spiritual connectedness to nature, contributing positively to taha hinengaro/mental health and well-being.

Many studies have been completed on the psychological and physiological effects of indoor plants in reducing stress, creating feelings of calmness, and increasing mental health and wellbeing (eg. Dijkstra et al, 2008; Toyoda et al, 2019). The greatest benefits accrue to people choosing a favourite plant and taking responsibility for its care. This slight but meaningful emotional involvement maintains interest over time and potentially intensifies the restorative benefit of having plants in the work (and home) environment.

Houseplants are the fastest growing plant retail sector in New Zealand and smaller, compact houseplants growing up to 30 cm in height, are especially popular. Houseplant enthusiasts often refer to their indoor plants as their "babies", suggesting they have invested emotionally in their plants, sometimes as an alternative to companion pets.

The worldwide craze for luxuriant displays of foliage plants in attractive ceramic pots is attracting a whole new generation to try their hand at gardening. *Pilea peperomioides* is an attractive indoor pot plant, with lush, round green leaves and a pleasant habit. It would make an exceptional tupu a whare/house plant for New Zealanders and is likely to be extremely popular, contributing to individual and societal well-being. The plant is highly popular around the world and has been described as the world's "It" plant. Consumers love it for how it looks, especially its space-ship-like elliptical leaves (Commercial Horticulture, 2018). It has gained the Royal Horticultural Society's Award of Garden Merit.

2. New Zealanders will benefit from being able to source healthy, well-priced plants from reputable retail outlets, rather than resorting to buying illegally traded plants on social media platforms.

Pilea peperomioides can occasionally be found for sale on social media sites such as Trade Me and Facebook Groups like Houseplant Lovers NZ and Indoor Plants NZ. 'Price bidding' is a common feature on these sites and some of the more sought-after species can achieve sky-high prices (Stuff, 2021). MPI keeps an eye on social media sites to try to prevent the sale of unapproved plants. However, strong demand for new and unusual plants and the high prices they often fetch means there is always a temptation for hobbyists to supply them. These sale channels do not contribute GST or income tax the way that legitimately run commercial nursery businesses do. Lack of availability and high prices also creates a temptation for people to try and smuggle plants in from overseas, creating biosecurity risk.

Resolving this plants 'new' status will mean that commercial plant producers can produce healthy, quality plants in quantities that make them affordable to the general public, and create additional jobs within the industry. Government will benefit from additional tax revenue (income taxes and Goods & Services Tax (GST)) which can be used for biosecurity and new organisms related activities.

3. MPI receive numerous enquiries about this plant every year – it is not on the Plants Biosecurity Index, yet it is widespread across the country and it can be regularly found for sale on social media sites, propagated for sale by houseplant enthusiasts and hobbyists. Responding to enquiries takes up MPI's time and resources which might be better spent elsewhere.
Making this organism 'not new' would resolve the status of this plant and reduce the amount of MPI time and resources replying and responding to public enquiries about it.

- c. The benefits to MPI in resolving the status of this plant would be in the order of \$15,000 per annum (estimated) in staff resources (manning the 0800 number and following up on notifications).

The commercial nursery industry would benefit from a new line of indoor plants, possibly worth up to \$500,000 per year across the sector. Government would benefit from increased turnover through income tax and GST– benefiting biosecurity and pest plant management programmes. The New Zealand consumer would benefit from greater access to healthy plants at a much more reasonable price.

- d. These benefits cannot be achieved by other means. MPI made a Section 26 Determination application in 2020 (APP204097, 2020) which included a written statement from a member of the public that she had had the plant for several decades (found in the appendix of application APP204097). This was determined by EPA to be a new species.

The nursery industry has also applied for a Rapid Assessment (in 2020) for approval for release. The EPA determined that this plant did not qualify under the rapid assessment criteria because it is possible that plants could survive out of doors and may produce viable seeds.

This plant is routinely propagated and gifted amongst plant enthusiasts but has not been offered commercially in New Zealand. The fee for a full application for release is \$27,000. As the plant is already widely distributed, it is unclear whether a single commercial entity, or even a group of commercial businesses, would recoup the fee cost from plant sales over the period of a few years. Once approved, anybody can propagate and sell the plant, so the applicant would be competing in the same market with businesses who contributed nothing to the cost of the application.

There is also no guarantee that a full release application would be approved by the Authority. Note that of the half a dozen applications for plant species approved by the EPA since the inception of the New Organisms provisions of HSNO (22 years ago), not a single application has been under the full release application provisions.

3. Describe the biology of the organism

Including:

- a. What are the biological characteristics of the organism?
- b. Where is it found overseas?
- c. Does it cause a disease?

- d. Does it have potentially beneficial characteristics?
- e. What adverse effects could making this organism 'not new' have on people or the environment, if any? Can these be quantified?

a. In its native habitat, *Pilea peperomioides* grows on shaded mossy cliffs and rocks with good drainage¹. Literature on its dispersal in the wild has not been found. Seeds are small (0.8 mm) with no obvious dispersal mechanism. Plants produce viable offshoots which are easy to propagate in cultivation. Its native distribution is restricted, and despite its widespread presence in home cultivation, there are few records of it becoming adventive (e.g. in Belgium²).

Plate 5



b. The native range of *Pilea peperomioides* is the cloud forests on the Diancang range in the province of Yunnan, China. Its native habitat is temperate cloud forest with a monsoonal rainfall regime (wet summers, dried winters). Flora of China gives its distribution as “1500-3000 m. SW Sichuan, W Yunnan”³. The species is considered very rare and possibly endangered in the wild. From a plant collected in the 1940s, offshoots were propagated in Scandinavia, England, Canada, and eventually much of the world. Although not highly traded, the plant is frequently exchanged amongst amateurs, leading to its global cultivated distribution and the nickname 'pass it on plant'. The plant is highly popular as a house plant, generating considerable attention, including several facebook groups.

c. It does not cause diseases in other organisms.

- d. *Pilea peperomioides* is a very attractive pot plant, with lush, round green leaves and pleasant habit. It would make an exceptional tupu a whare/house plant for New Zealanders and is likely to be extremely popular, contributing to individual and societal well-being.
- e. No adverse effects are anticipated to society or the environment from making this organism “not new”. MPI provided some technical advice on the potential invasiveness of this species in New Zealand on 27 April 2018 (reference provided).

The species is not recorded as an unwanted or notifiable species in New Zealand (including Schedule of weed seeds, PPIN, Notifiable organisms). Despite widespread cultivation, *Pilea peperomioides* is not recorded as a weed in some important global databases, including Global Invasive Species Database (ISSG 2018) and Global Compendium of Weeds (Randall 2012). It is not recorded as a weed or invasive in Australia, USA or Europe, with only a record of a casual adventive in Belgium (Verloove, 2018). MPI considered the potential invasiveness of this species in New Zealand and determined it would pose a negligible risk to the economy or

¹ Flora of China, http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=242338100.

² Verloove, F. 2018. Manual of the Alien Plants of Belgium. <http://alienplantsbelgium.be/>, Botanic Garden of Meise, Belgium.

³ Flora of China, http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=242338100, 20180414.

environment, were it to establish or naturalise in the outdoor environment in New Zealand (MPI Risk Analysis 2018).

Ease of eradication

The species is easily controlled by using herbicides.

4. Has the organism formed a self-sustaining population in New Zealand?

Including:

- a. Where and when has the population(s) of the organism been found in New Zealand?
- b. How does this organism spread?

- a. The Ministry for Primary Industries (MPI) was first notified of this species in New Zealand in 2018 and suspected that it was a new organism and limited in distribution. They were unable to establish a point of entry of this species to New Zealand.

A recent formal identification of a cultivated specimen from Auckland ex Singapore is at the Allan herbarium (CHR 646074, 27 Mar 2018)⁴, leading to its classification in NZFlora as “Present in captivity/cultivation/culture, Exotic”. There are no other specimen records at Te Papa or Auckland Museum.

The plant was very popular overseas in cultivation in the 1970s, and it is possible that it was brought to New Zealand during the last houseplant craze in the 1970s and 1980s. It is not officially recorded as present in Aotearoa New Zealand but is widely distributed among houseplant enthusiasts here and is often found for sale on social media sites⁵.

MPI have received many notifications for this plant over the past few years which confirm it is widely distributed amongst the house plant community. The notifications are published in Surveillance Quarterly.

- b. *Pilea peperomioides* produce offshoots from their main stem which are easy to propagate in cultivation. Seeds are also available on the internet⁶.

It is a very popular indoor houseplant, both overseas and in New Zealand. MPI led an investigation in 2018 and concluded this plant is widespread amongst houseplant enthusiasts in New Zealand. It is often found for sale on social media sites.

It's widespread distribution and popularity effectively ensure this plant is self-sustaining in New Zealand as a Tupu ā-whare/houseplant.

5. Is any person attempting to manage, control or eradicate the organism under any Act or is the organism the subject of an enforcement action or action under a civil penalty regime?

Including:

⁴ https://scd.landcareresearch.co.nz/specimen/CHR_646074, 20180425.

⁵ <https://www.palmers.co.nz/questions/question/pilea-peperomioides>, 20180423.

<https://www.homestolove.co.nz/inside-homes/people-places/tanya-wongs-friday-faves>, 20180423.

⁶ <https://www.ebay.com.au/itm/50Pcs-Pilea-Peperomioides-Chinese-Money-Plant-Seeds-Tree-Pancake-Shape-Garden-/202048192876>, 20180423.

- a. If the organism has been part of an official incursion response or other MPI response or management activity, describe what happened here including why the response was stood down.

The Ministry for Primary Industries (MPI) Diagnostic and Surveillance Services were first notified of this species in New Zealand in 2018. They were unable to establish a point of entry of this species to New Zealand and undertook enforcement action. A member of the public sent a query to their exotic pest and disease hotline, informing MPI that she had a plant in her possession for 10 years since the passing of an elderly relative. Prior to that the notifier recalls the plant being on the kitchen table for many years, possibly for two decades.

The size of the plant was larger than other *P. peperomioides* plants MPI were aware of and MPI botanists suggested it was likely to be of “old age”.

Information on the native range, climate suitability, weediness and presence in New Zealand was prepared for these teams by MPI risk analysis.

The investigation was stood down when it was discovered how widespread the plants were, and following the provision of technical advice from MPI Plants & Pathways Risk Analysis that the plant posed negligible risk to the environment, should it establish outdoors in New Zealand.

MPI made a Section 26 Determination application in 2020 (APP204097, 2020) which included a written statement from the member of the public (found in the appendix of application APP204097).

The EPA decided that there was not sufficient evidence of presence prior to July 1998 and concluded that it had entered New Zealand after the HSNO Act came into force, most likely brought in unlawfully.

<https://www.epa.govt.nz/assets/FileAPI/hsno-ar/APP204097/APP204097-Decision.pdf>

6. Is there reason to believe that this organism was deliberately imported in contravention of an Act of Parliament? If so, please explain.

Pilea peperomioides has been a popular houseplant since the 1940s and offshoots have been propagated in Scandinavia, England, Canada, and eventually exchanged through much of the world.

The EPA’s consideration under the section 26 determination concluded that it had been present in New Zealand after the HSNO Act came into force, most likely brought in unlawfully.

However, given its huge popularity and long history of global trade and exchange, it is possible the plant may have been brought into New Zealand prior to HSNO coming into force in 1998. Not all plants introduced in the decades before HSNO had official documentation to accompany them across the border. There is anecdotal information to support this, but there are no paper records or documentation which meet the evidence requirements under HSNO.

7. Is there any other information you wish to include?

A recent SFFF project is attempting to improve the knowledge of plants which are present in New Zealand. The project called “Taking Stock” states that “There are many thousands of species of cultivated plants in New Zealand, yet lack of knowledge and poor cataloguing of which species are actually present impacts our prosperity: we do not adequately know what is in this country, what it is called, or where it is growing.”

Part 3

8. Provide references to the information you provided (if applicable)

APP204097 (2020).

<https://www.epa.govt.nz/assets/FileAPI/hsno-ar/APP204097/APP204097-Decision.pdf>

Commercial Horticulture, 2018. Everyone, except our EPA, loves *Pilea peperomioides*. August/September 2018: 33.

Dijkstra, K., M.E. Pieterse & A. Pruyn (2008). Stress-reducing effects of indoor plants in the built healthcare environment: The mediating role of perceived attractiveness. *Preventive Medicine*, Volume 47(3): 279-283.

ISSG (2018). ISSG. 2018. Global Invasive Species Database.

<http://www.iucngisd.org/gisd/search.php>

Randal, (2012). Randall, R. 2012. Global Compendium of Weeds.

http://www.agric.wa.gov.au/PC_93105.html

Toyoda, M., Yukota, Y., Barnes, M. & M. Kaneko (2019). Potential of a Small Indoor Plant on the Desk for Reducing Office Workers' Stress. *HortTechnology* February 2020 30 (1): 55 – 63.

MPI Plants & Pathways Technical advice on: *Pilea peperomioides* potential invasiveness in New Zealand. 27 April 2018.