SUBMISSION ON

The use of chlorthal-dimethyl herbicides

30 August 2024

To: Reassessments Team, Environmental Protection Authority
Name of Submitter: Horticulture New Zealand
In partnership with: Onions New Zealand & Vegetables New Zealand Inc.

Contact for Service:

Dr Eve Pleydell
Risk Policy Manager
Horticulture New Zealand
PO Box 10-232 WELLINGTON
Ph: 021 745 787
Email: Eve.Pleydell@hortnz.co.nz

Horticulture™ New Zealand
Ahumāra Kai Aotearoa

OVERVIEW

Submission structure

1. **Part 1:** HortNZ's Role
2. **Part 2:** Executive Summary
3. **Part 3:** Submission

Our submission

Horticulture New Zealand (HortNZ) thanks the Environmental Protection Authority for the opportunity to submit information about the use of chlorthal-dimethyl in the horticulture industries. We welcome any opportunity to continue to work with the EPA and to discuss this and other crop protection matters.

PART 1

HortNZ's Role

Background to HortNZ

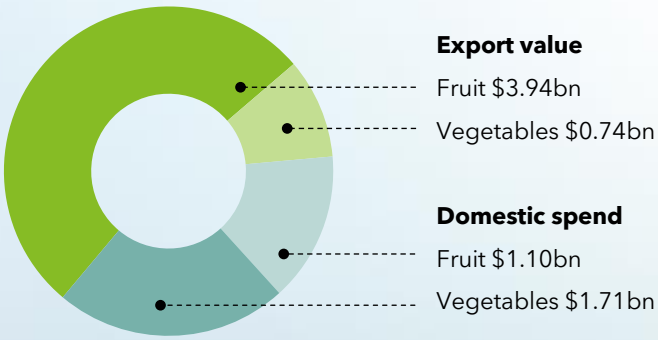
HortNZ represents the interests of approximately 4,200 commercial fruit and vegetable growers in New Zealand who grow around 100 different fruits and vegetables. The horticultural sector provides over 40,000 jobs.

There are approximately 80,000 hectares of land in New Zealand producing fruit and vegetables for domestic consumers and supplying our global trading partners with high quality food.

It is not just the direct economic benefits associated with horticultural production that are important. Horticulture production provides a platform for long term prosperity for communities, supports the growth of knowledge-intensive agri-tech and suppliers along the supply chain; and plays a key role in helping to achieve New Zealand's climate change objectives.

The horticulture sector plays an important role in food security for New Zealanders. Over 80% of vegetables grown are for the domestic market and many varieties of fruits are grown to serve the domestic market.

HortNZ's purpose is to create an enduring environment where growers prosper. This is done through enabling, promoting and advocating for growers in New Zealand.



Industry value $7.48bn

Total exports $4.67bn

Total domestic $2.81bn

Source: Stats NZ and MPI

HortNZ's involvement with crop protection regulation

On behalf of its grower members, HortNZ works to help ensure that the regulatory settings and services that affect the availability and affordability of crop protection products in New Zealand are appropriate, workable, and cost-effective.

PART 2

Executive Summary

HortNZ, Onions NZ and Vegetables NZ are submitting this information on behalf of commercial horticulture growers. The information has been collected from grower records and from conversations with growers.

In general, this is a product that is not widely used in commercial horticulture and its withdrawal is unlikely to pose major risks to horticultural businesses. However, the ongoing loss of older crop protection tools in New Zealand without newer tools being available to replace them is putting increasing pressures upon the sector. The potential loss of another tool is a concern and will have consequences, particularly for onion growers.

The commercial growers who have reported using chlorthal-dimethyl are individual allium growers (onions, shallots and garlic) who have issues with wireweed in particular paddocks. Losing this tool, will force those growers to use less suitable herbicides to control this aggressive weed.

When chlorthal-dimethyl is used, it is generally applied on a single occasion after sowing but before seedlings have emerged. Applying chlorthal-dimethyl in this way is the most effective way to protect the immature allium crop from being smothered by wireweed.

All growers using this product are doing so in accordance with the control measures required on the label and in their regional plans.

There is another active available with the same mode of action that can be used as a pre-emergence treatment for wireweed. However, the residues of this active persist in the soil for longer than those of chlorthal-dimethyl and growers have found that this can affect the emergence of future crops.

Applying herbicides with alternative modes of action as a treatment for wireweed has also been found to cause greater herbicide damage to the allium seedlings. To avoid this, growers reduce the application rates of these products while correspondingly increasing the number of applications made during the crop cycle to still achieve effective control.

Greater details about the precise questions posed by EPA are provided in the body of the submission.

PART 3

Submission

Most fruit and vegetable sectors are not using chlorthal-dimethyl. The exception is the allium sector (the growers of onions, shallots and garlic) where the product is used occasionally under specific circumstances. The rest of this submission contains details exclusively about the use of chlorthal-dimethyl by allium growers.

Questions posed by EPA

Q. 2a	Are you aware of chlorthal-dimethyl containing products being used in New Zealand in the last three years?

Nationally, a very low number of applications of chlorthal-dimethyl have been made in recent years (for details see Q3 below) with most allium growers not applying it at all.

Q. 2b	How have these products been used (such as crop sector, application and handling information)?

When it is used, it is applied as a pre-emergent treatment after the onion seed has been sown but before it has germinated. It is predominantly used on properties where wireweed (*Polygonum aviculare*) causes problems.

Wireweed is an aggressive weed that can outcompete crops by forming dense mats of vegetation across the surface of a paddock. These mats of vegetation can smoother seedlings and prevent the crop from establishing. Wireweed likes to germinate and establish in wet soils and can cause major issues for early harvest onion growers who are planting seeds in the spring. It is a challenging weed to control, and controls are best applied when the weed is at the seedling stage because mature plants show greater tolerance to many herbicide agents.

Figure 1. Wireweed starting to grow in a paddock of established onions. Image sourced from https://www.cropscience.bayer.co.nz/pests/weeds/wireweed

Q. 2c	Are you aware of any particular requirements or considerations when using chlorthal-dimethyl containing products? For example, use of personal protective equipment, restrictions on post-application activities, or types of application equipment used.

There are many risk management steps in place regarding the use of this product by commercial allium growers.

ENVIRONMENTAL SAFETY & PUBLIC HEALTH

All growers we've talked to are using the spray in accordance with the requirements about discharges to the environment stipulated in their regional plans. This includes, but is not restricted to, the following steps:

- If there are residential neighbours to a paddock, these must be notified by the grower before spraying commences.
- If the wind conditions are inappropriate, then spraying does not occur.
- The product is applied via modern boom sprayers with air induction nozzles to ensure large droplet sizes and minimal drift.
- Standard buffer zones (as stipulated in the regional plan) between the crop and the edge of the paddock are adhered to. Some growers also grow other plants in the buffer zones, to further decrease the risks of spray drift escaping from the paddock.
- Storage of this product is also conducted in the manner stipulated in the regional plan.

WORKER SAFETY

All growers we've talked to are using the product in accordance with the label requirements. This includes, but is not restricted to, the following steps:

- When mixing the product, full Personal Protective Equipment (PPE) is used, including respirators.
- Tractor cabs have carbon air filters to protect the drivers.
- Re-entry to the paddock does not occur for at least 24 hours after spraying. However, because the product is being used before the crop has emerged, re-entry is unlikely to be needed until at least 3-4 days after spraying.

FOOD SAFETY

The food safety risks associated with the use of this product are likely to be low as it is being applied before the crops have emerged from the ground and months before they are harvested.

Q. 3	What quantity of chlorthal-dimethyl containing products have you used/imported/sold in the last three years?

Records that cover approximately 80% of the crop protection products applied to commercial onion crops show that there have been very few applications of this product in recent years.

- During the 2022-23 season there were 8 applications nationally.
- During the 2021-22 season there were 10 applications nationally.
- During the 2020-21 season there were 24 applications nationally.

Figures are not yet available for the 23-24 season, but phone conversations with growers (including those who have previously used this product) suggest use has remained low with most growers we've spoken to not having applied it at all.

In general, if a grower does have an early season wireweed issue, they are only applying this product to a paddock once. In 2020-21, nine growers reported applying it twice, once pre-emergence and once during the life of the crop. However, we are not aware of any growers who have applied it more than once since that season.

Q. 4	If the use of this product was to be restricted, can you indicate what kind of impact this would have on your organisation/business?

No growers have indicated that further restrictions on the use of this product would have major implications for their businesses. However, several have reservations about the potential for indirect consequences if it is withdrawn. They are witnessing a continual loss of previously registered crop protection tools but are not seeing a corresponding increase in new tools coming onto the market.

One unfortunate consequence of not having access to newer, softer crop protection tools is that growers are being forced to use the remaining herbicides more frequently. This inevitably puts greater selective pressures on weeds accelerating the development of tolerance (thus requiring higher volumes of control agent to be used to achieve efficacy) and/or full resistance (rendering that control agent inefficacious).

Due to the lack of new products coming onto the New Zealand market, growers are being repeatedly disarmed in their fight to control pests and diseases. If this trend is not reversed, New Zealand's horticulture growers will increasingly struggle to be commercially viable, and they will be unable to provide healthy, safe and suitable fresh produce for people to eat.

Q. 5	Are there any alternative products and/or methods that could be used in place of chlorthal-dimethyl containing products?

Chlorthal-dimethyl is the product of choice for New Zealand allium growers who have problems with wireweed in their paddocks. There are alternative herbicides available, but these products are less suitable for controlling wireweed in allium crops.

Our understanding is that there is one other Group 3 herbicide available with the same mode of action to chlorthal-dimethyl and that is pendimethalin sold under the tradename Stomp®. Growers have reported that they prefer not to use pendimethalin because the residues persist in the soil and can affect the emergence of subsequent crops.

Other than pendimethalin, onion growers needing to control wireweed would have to use herbicides with different modes of action. Growers have reported that using other herbicides for wireweed control can also lead to herbicide damage to the onion crop

itself. Using an herbicide that is softer on the crop is particularly important for red onions, because they are more prone to herbicide damage than brown ones.

To avoid herbicide damage to crops, growers need to lower the application rate of herbicide they apply per hectare. This has two consequences. Firstly, to achieve adequate control of wireweed using low volumes the growers need to reapply the herbicide multiple times during the life of the crop. Secondly, using herbicides at lower concentrations can accelerate the development of resistant weeds, which effectively removes a product from use.