

Burning Mixed Waste

1. Survey on Burning Mixed Waste

This report presents the results of a survey of growers who have mixed waste remaining on their properties from Cyclone Gabrielle. Survey responses were collected during the week on June 19, 2023.

1.1. Survey Participants

Previously we estimated that between 60 and 140 growers need to burn mixed waste. HortNZ has worked closely with our product groups and has gathered more specific information to the best of our ability. Given the very short time frame, we were unable to contact all growers who may have mixed waste they wish to burn. The numbers detailed in this report are not complete. There will be additional growers with mixed waste.

Affected orchards where growers want to burn mixed waste are located in the following areas, locations of which are shown on the attached map. Most of these properties were impacted by flooding. A small number were damaged by high winds and rain, rather than flooding. Some locations may indicate the main business address rather than the specific property with a waste pile. Not all businesses supplied the area of their properties, so these numbers are underestimates.

2. Results

2.1. Volume of Waste

Based on the information provided, we estimate around 69,884 m³ of mixed waste to be burnt. The area of the waste to be burnt is difficult to quantify, as some properties have not yet been cleared with mixed waste pushed into piles. The number of properties yet to be cleared is likely in single figures, and most growers were able to provide an estimate of the volume of mixed waste to burn (in m³).

2.2. Composition of waste

According to grower estimates, many piles contain 1-5% prohibited material. As previously advised and illustrated in the photos we provided, growers have separated waste where possible.

The remaining piles are so intertwined that they are impossible to disentangle. For instance, they include trees that grew around wire in older growing systems or material that is unsafe to remove. Irrigation tubing has been pulled out where possible. Growers have removed tanalised posts where possible, especially given their cost – around \$30 for a ¼ round, and \$70 for a full round excluding GST. A small number of broken posts may remain, but they comprise a tiny percentage of the material to be burnt. Overwhelmingly mixed waste piles are composed of trees.

The five kiwifruit orchards with mixed waste issues are outliers to this trend. Kiwifruit orchards growing high-value varieties (e.g. gold) have hail netting to protect them, which is held up by large support structures resembling pergolas and the canopy structure. In several cases, the canopy support structures were broken off at ground level by flood debris flowing through orchards, which caused areas of the canopy to collapse completely or at least made working under them unsafe. In these orchards, growers estimate that the prohibited portion of the waste pile may be 25-50% of the burn piles, but this is only the case on about five properties.

2.3. Area impacted by waste

The area of land left unusable is far larger than the area of land directly covered by burn piles. Even if only a one-meter buffer is assumed around the piles, this almost doubles the area that is unusable. Most burn piles were created with the expectation of an incoming legal pathway to enable burning, so bigger buffer zones were left to ensure adequate clearance from nearby vegetation, powerlines and other hazards.

If burning is not allowed to occur and piles are forced to remain, this will create difficulties for partially impacted orchards where production continues. Horticultural land is used intensively, given its high value. Leaving areas that cannot return a profit may make it uneconomic for some owners to hold onto land. Operationally, larger areas may also remain unusable if machinery cannot access orchard rows due to piles of mixed waste. The persistence of mixed waste piles on orchards also will create a biosecurity risk, as they are a reservoir for pathogens. Leaving burn piles also poses a health and safety risk to orchard workers.

The persistence of burn piles will also have detrimental effects on the structure of soil underneath. Highly productive land is a finite resource. Leaving piles unnecessarily removes productive land, which should be weighed amongst other environmental effects. Both the pile area and the surrounding buffers will be lost from production.

2.4. Social effects

HortNZ discussed the mental health effects of these mixed waste piles in our submission. To reiterate, the piles are a daily visual reminder to growers of all they have lost. So many growers we spoke with said that getting rid of the piles will enable them to feel a sense of progress on the road to recovery. Continuing to look at them will have an ongoing negative impact on growers' mental health, which compounds their continued stress, further strained by heavy rain occurring at the time of writing. There is a solution available. Allowing burning will be a tangible sign of recovery, with a positive social emotional impact that should not be underestimated.

2.5. Cultural effects

These piles exist on privately owned land that was in productive use before the cyclone. Several impacted properties are multiple-owned Māori land parcels, and their owners and managers want the ability to move forward and release this land for production as soon as practicable.

If waste piles cannot be burned on leased land, the leases may be surrendered in some cases. Multiple-owned Māori land used for horticulture is often leased and is therefore vulnerable to being left unproductive if it has waste piles that cannot be burned.

Given the proportion of waste that is prohibited, the effects on nearby cultural sites will be minor, given that orchard trees can be burnt as a permitted activity. Both our submission and further information provided to MfE set out a process for managing any contaminated soil remaining after burns to restore the quality of the soil.

2.6. Economic effects

If growers are not granted permission to burn mixed waste, we estimate that \$1,406,560 of value will be lost, plus \$435,555 per year of lost production. If the waste piles are left for 20 years, the loss of value is estimated to be \$9.1 million. These estimates are related to the 73 survey responses, which is a sample of the total number that may burn waste.

In response to the Review Panel's questions about Department of Internal Affairs funding, it is generally acknowledged that there is not sufficient money in that fund to provide support to all of the growers that need it. The criteria also mean that many growers will not receive anywhere near the full cost of their recovery.

Timing is an issue of primary concern. Speed is imperative to clear land of mixed waste piles and provide the opportunity for growers to use the underlying land productively this season. HortNZ is not aware of anyone who holds crop loss insurance given the prohibitive cost. Therefore, all of these growers have suffered impact on their annual income. In the worst cases, growers lost their entire crop just after incurring all of the season's growing costs, given that the cyclone occurred so close to harvest.

2.7. Regarding sediment

The Sediment Taskforce are doing an amazing job collecting silt and have worked to increase their capacity. In their latest update, they estimated there would be around 2,400 truck movements a week¹ moving silt. Their capacity is limited, however, and their job list is months long, which does not align with the growing window available for planting annual crops. In fact, onions need to be planted this week. The mixed waste piles are predominantly woody debris, not silt. The silt was shaken out as the piles were created.

¹ [Cyclone-Gabrielle-update-as-at-21-June-2023.pdf \(hastingsdc.govt.nz\)](#)