



HERBICIDE RESISTANT TOTARA - ???

Written by Paul Quinlan, June 2020



Wanted: Sightings of tōtara surviving weed sprays!

Has anyone noticed tōtara surviving weed sprays? Instances where tōtara appears to have survived herbicide applications have been noticed in Northland over recent years. Tane's Tree Trust trustee Paul Quinlan with the Northland Totara Working Group has started to document examples and wonders if others have seen the same thing.

He says, "If we can gather the details of apparent herbicide resistance, it will help target research trials that could result in lower cost ways to establish tōtara forests."

Tōtara are tough and often seen regenerating in pastoral farm situations, particularly in Northland. However, they appear to not only survive the grazing pressure, but also often herbicide sprays applications targeting gorse and kanuka on hill country farms.

The image below shows naturally regenerated tōtara that has survived aerial spraying of Metsulfuron-methyl and penetrant at the recommended label rates for gorse control. Applied in November 2019, and six months later (and in summer drought conditions), the gorse, kanuka and tree ferns have died, but the tōtara, apart from some 'burnt' growing tips, appeared to have survived the spray.

Similarly, the tōtara seedlings in the image above - a newly planted pine block, (taken in June 2020) appear to be surviving, despite having been subject to a pre-plant aerial spray in May 2019, and then a post-plant aerial release spray in Nov 2019. Again, some apparent damage to the growing tips of the tōtara is evident, but survival and full recovery appears likely.



Six months after aerial application of Metsulfuron-methyl the kanuka, tree ferns and gorse have died, but the naturally regenerated tōtara appear to be surviving on this Northland farm.

Prompted by these observations, and as part of the Our Forests Our Future project funded by The Tindall Foundation with support from Pāmu Farms, Tane's Tree Trust has initiated some preliminary field trials of Metsulfuron-methyl applications over tōtara seedlings. These include knapsack spray applications over potted seedlings (image below) and over seedlings in the field one year after planting. These will be monitored monthly for at least the next six months. We will keep you updated via the Tane's Tree Trust website.

"...At this stage, we are certainly not advising that these herbicides can be safely applied to tōtara seedlings!"

However, it is important to stress that at this stage, we are certainly not advising or recommending that this or any other brush-weed herbicides can be safely applied over tōtara seedlings! We are only in the early stages of gathering observational evidence in order to set up robust scientific trials in the future.

Your observations wanted

You can help by reporting your observations and experiences of herbicide applications to tōtara. Of course, it is particularly useful if details can be provided, such as when was the herbicide applied (e.g. season), what was the spray operation targeting (e.g. gorse), exact herbicide mixes, any additives and rates, application method, and age, size and apparent effects on the health of the sprayed-over tōtara (and other native species too). A photograph would also be useful if available.

While we are not wanting to kill other natives such as kanuka and manuka, they are primary colonising species usually displaced by taller forest trees anyway. And, establishing canopy trees species such as tōtara quickly, may have advantages in reducing exotic weed invasion or dominance. It will also provide a tall forest structure or habitat to become a home for a range of associated native plants. Cost effective methods and options for establishing large-scale native forestry are needed. This would see more landowners planting native forests for multiple-uses and for future generations.

Please send in your observations to Paul Quinlan:

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Ph. (09) 4050 052, or (021) 1478 279



One Month after applying Metsulfuron-methyl to tōtara seedlings at full and half the recommended label rate for gorse control, a colour change is noticeable on many of the seedlings compared to the control group which had no herbicide applied. Keep posted to find out what happens...

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