

# Steps to curb Clopyralid

words Geoff Hemm, organic processing planner, Transpacific Industries Group Ltd



*Clopyralid use is now restricted to pasture and other non-domestic applications*

Since first being found by Living Earth as an unwelcome contaminant in market-ready compost in Christchurch in 2000, clopyralid continues to show up in green waste composts in the South Island.

The herbicide is used to kill broadleaf weeds in pasture – and until recently, was also used by home gardeners on their lawns.

At the initiative of the New Zealand Business Council for Sustainable Development, a successful submission was made to the Environmental Risk Management Authority (ERMA) in 2007 to amend the terms of registration to outlaw the sale of small retail packs of clopyralid to home gardeners. Farmers and other approved handlers may still purchase it, but it can only be used in non-domestic applications.

It was hoped this change would stop people applying the herbicide to domestic lawns (as occurred in the Northwestern United States in the 1990's when it became an issue there), but this has not proved to be the case. It is found in virtually every batch of compost made from feedstock containing grass clippings in South Canterbury. It has also turned up in Central Otago compost (having attracted media coverage when it laid low a Wanaka vegetable garden) and it persists with high frequency in Christchurch.

As the industry umbrella organisation and as a sector group within WasteMINZ, Compost NZ has recently formed a technical working group to investigate how this pernicious

form of contamination can best be mitigated, if not eliminated. Its first action was to meet with ERMA, Dow AgroSciences (as the originators of clopyralid) and Agcarm (the organisation representing the veterinary remedies and crop protection industries).

It was hoped to gauge from ERMA whether there is scope to tighten the regulations around its use to restrict access to it by home gardeners. Also, where it's used on amenity turf (sports fields, parks, etc), all stakeholders should be alerted that the clippings must not enter any composting stream. The salient points discussed with ERMA were as follows:

- ERMA is not an enforcement agency. Agri-chemical use in the workplace and its labeling is policed by the Department of Labour. Use in public places falls under the jurisdiction of territorial authorities (TAs).
- While the sale to anyone other than approved handlers is illegal, the actual use of clopyralid in domestic gardens appears not to be illegal. ERMA has been asked to look into this and see if it can be changed.
- ERMA is working towards adopting infringement penalties (similar to traffic fines) to deal with the inappropriate use of agri-chemicals.
- The special conditions applied to the use of clopyralid should specifically be drawn to the attention of approved handlers when they buy the product and when they renew their licenses.
- Point-of-sale control of product containing clopyralid should be tightened as anecdotal evidence suggests that the status of the purchaser is not always checked when product is sold.
- Compost NZ is to urge all members who test for the herbicide to provide their data to ERMA so a clearer picture of the problem can be built up.

In a second meeting with Dow AgriSciences and Agcarm, matters without regulatory bearing (and outside the ambit of ERMA's authority) were discussed:

- Both Dow and Agcarm emphasised their willingness to work with Compost NZ to help address the clopyralid issue.
- The full geographical extent of the problem in New Zealand is not known. Independent sampling and testing is needed to establish the situation.

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- The participants agreed to investigate the feasibility of a product take-back scheme to encourage the removal of legacy stocks in gardeners' sheds.
- While it is known that clopyralid eventually breaks down through extended microbial action, optimising the process is important to deal with contamination when it is found. Some work on this has been done by Blewett and Brinton in the US. This is to be pursued.
- Plant tolerance of clopyralid is strongly influenced by taxonomy. While some plant families are known to be particularly sensitive and others are resistant, a much wider survey is required so that plants can be accorded a tolerance rating. This will enable fit-for-purpose applications of clopyralid-tainted compost, under certain conditions, without causing harm.
- Higher level research into the microbial degradation of the herbicide should be encouraged. A search should be launched for new species/strains capable of cleaving the clopyralid molecule. The possibility of culturing such organisms (as well as those already known to science) to inoculate compost should be investigated.
- Intensified education and advertising is required. Agcarm has offered its channels to do this to reach farmers, applicators, distributors/sellers, turf managers and gardeners.

It was agreed that the clopyralid issue will not disappear in the short term. Concerted and persistent effort is required to deal with it.

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## Equip households to succeed - the right tool will change behaviour!

words Michael Smythe, design director, Earthmaker Enterprises

Territorial authorities in New Zealand need to facilitate home composting as effectively as other methods of diversion and disposal.

Home composting is generally acknowledged to be the ideal means of processing domestic organic waste. Before scrutinising that belief in detail it could be useful to work our way through all the alternatives.

**Landfill burial** creates methane gas, leachate and carbon emissions from transporting and processing. Converting the methane into electricity in co-generation plants must be balanced against the capital and running costs of the plant.

**Centralised composting** involves costs and carbon emissions in collecting, transporting and processing material. Contaminated feedstock is an ongoing problem along with policing quality standards and finding markets.

**In-sink waste disposal** makes use of existing reticulation but involves pouring valuable clean water and nutrients down the drain. Processing through the sewage system mixes good nutrients with contaminants and requires significant costs and land-use to treat water before it is of good enough quality to discharge. Remaining bio-solids often end up in the landfill.

**Worm farms** are particularly attractive to young children, but they process food waste only and many people give up on them because they require ongoing maintenance and can't be left for long without the worms dying. Research at the UK Open University has claimed that red worms emit high levels of nitrous oxide which is no laughing matter because as a greenhouse gas it is 296 times more powerful than CO<sub>2</sub>!

**Bokashi bins** seem suited to modern lifestyles. They process food waste only, require the ongoing purchase of an additive and the fermented material, according to its promoters, should be buried in a trench – possibly not so easy for apartment dwellers.

**Home composting** requires a bit of outdoor garden space, so it is not a universal solution. There are several methods of composting at home.

- **Open heaps** are the simplest and most rudimentary means of DIY composting. They require attention to ensure good porosity, moisture regulation and suitable heap size to enable continuous passive aeration. The classic three-bin system takes space and hard work. If neglected, it can become anaerobic and odorous.

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