

GREENWASTE COMPOSTING INDUSTRY – CLOPYRALID PROJECT

PHASE ONE – SEPTEMBER-OCTOBER 2014

Report prepared for survey participants

Background

The WasteMINZ Organic Materials Sector Group recently undertook to review the New Zealand situation for clopyralid and its level of contamination of greenwaste, and subsequent compost products. Clopyralid is a herbicide used to control broadleaf weeds, particularly thistles and clovers. It can survive the composting process and actually increase in concentration as the greenwaste breaks down.

Compost products contaminated by clopyralid can damage peas, tomatoes and sunflowers, and can also cause potatoes, lettuce and spinach to become inedible.¹ Due to its persistence as a contaminant, and resulting implications for product end users, clopyralid is a substance that the composting industry needs to protect itself from as much as possible.

Industry survey

Before talking with the EPA and MfE, the first step is to review the current situation and level of change that may or may not have occurred since ERMA put some initial protection measures in place.² To do that, Joanne McGregor of Transvalue Consultants carried out an industry survey on the behalf of the Organic Materials Sector Group. The survey focused on whether greenwaste composting facilities currently test for clopyralid and, if so, what types of results are being received. Below are the questions asked in the telephone survey:

1. Have you heard about clopyralid?
2. Do you currently test for clopyralid at your facility?
3. If you do test for clopyralid: (i) how often do you test (timing and e.g. no. of rows), and (ii) is it present?
4. If you don't currently test for clopyralid, are you concerned about this contaminant? If so, what are those concerns?
5. If your testing shows that clopyralid is present, are you willing to share analysis data for the purposes of this study?
6. If you would prefer not to share data, are clopyralid concentrations within your compost less than or more than 20 parts per billion (ppb)?

¹ Source: <http://www.thetimes.co.uk/tto/environment/article3696921.ece>

² An application was submitted to the *Environmental Risk Management Authority* (ERMA) back in 2006 on behalf of the composting industry. This application was made under the Hazardous Substances and New Organisms Act 1996 with the purpose to reassess substances containing clopyralid used to control weeds in forestry, agriculture, turf and lawns. The decision and resulting measures put in place were less than hoped for, although a requirement for clopyralid-containing herbicides to only be purchased and applied by an approved handler was introduced. It also restricted the application of such substances to turf, and specified that no treated vegetation (clippings etc.) be disposed of in any greenwaste recycling centre. In addition, an approval was revoked for the importation/manufacture of soluble concentrates containing 30 g/L clopyralid. These controls came into effect as of August 2008.

Through undertaking the survey it soon became apparent that a number of facilities are separating out grass clippings due to clopyralid risk. This preventative measure may be a key contributor to any reduction in detected clopyralid results. Therefore survey participants were also asked if this was a practice taking place at their facility, or anything similar (e.g. restricted sales of greenwaste compost products).

Results

Results of the data analysis are appended to this summary report, and key findings are outlined below.

Key findings

Key findings from the clopyralid composting industry phone survey are as follows.

1. Perceived risk, concern, operational impacts

- Although the number of commercial greenwaste composters are relatively small (identified by this survey as 19 facilities), participation rates within the survey were 79%. This likely indicates recognition by the industry that clopyralid remains an issue of importance.
- Most (87%) greenwaste composters who participated in the survey have heard of clopyralid and all survey participants are concerned about its presence within greenwaste (2 organisations expressing concern following initial contact by WasteMINZ about clopyralid).
- In addition, over 40% of surveyed facilities not directly involved in greenwaste composting (those either composting other products or purchasing greenwaste compost from others for blending, on sale etc.) were also aware of clopyralid and concerned about its potential effects on the receiving market.
- Just over half of participating greenwaste composters actively separate out grass clippings to try and manage clopyralid contamination upfront. However, 2 of those 8 facilities are still detecting clopyralid levels greater than 20 ppb, and 1 other is detecting lower levels (<10 ppb). Conversely, only 2 of the facilities who separate grass clippings are not detecting clopyralid within their composted product, and the remaining 3 are either not testing for clopyralid or have only recently started to.

2. Approach to testing

- Of the 15 participating facilities (greenwaste composters), 12 are currently testing for clopyralid.
- 3 of the 12 facilities currently testing do so annually (timing not known), and the other 9 facilities test at a greater frequency – anything from 6 monthly to ‘continuously’ (frequency of testing influenced by total processing time and product turn over to market).
- Samples for testing are typically taken from curing piles or pre-screening pile
- 1 facility does a growth test only, 9 do a laboratory test that specifically tests for clopyralid, and the remaining 2 facilities do a combination of laboratory and growth testing. Growth testing is based on plants known to be susceptible to clopyralid contamination, e.g. tomato plants.

3. Test results

- 7 of the total 12 facilities currently testing reported that clopyralid has been detected within their compost.
- Results shared by survey participants indicate that, at times, clopyralid has been detected at levels above 20 ppb and, in some cases, in excess of 50 ppb³.
- Detectable and, in many cases, high clopyralid results have been observed for material that is 3 or 4 years old as well as compost made in recent years.

Appendix

1. Summary of survey results

³ It should not be assumed that compost with clopyralid levels below 20 ppb would not have any adverse effects on plant growth. Rather, this is used as an indicative level above which additional restrictions may be required. Hill Laboratories advise 50 ppb as a level above which the product should not be used. However, lower levels of clopyralid contamination (e.g. less than 10 or even 5 ppb) may still have adverse effects, particularly if contamination accumulates over time.

Compilation of results from 2014 Composting Industry Survey - Clopyralid Risk

Prepared by Joanne McGregor, Transvalue Consultants, September 2014

	Number	Percentage	
General overview - participation statistics			
No. of organisations identified for inclusion in survey	35		
No. of organisations not currently processing greenwaste	14		
No. not composting to produce product (i.e. for waste disposal only)	2		
No. of relevant organisations	19		
No. not able to make contact with or not wishing to participate	4		
No. of participants (from relevant organisations)	15	79%	19
Industry awareness of clopyralid issue			
GW composters who have heard of clopyralid	13	87%	
GW composters who have not heard of clopyralid (prior to survey and initial contact by WasteMinz)	2	13%	15
		100%	
Industry concern re. clopyralid contamination			
GW composters concerned about clopyralid (may or may not be currently testing for it)	15	100%	
Non-GW composters concerned about clopyralid (may or may not be testing for it)	6	43%	
GW composters actively separating out grass clippings due to clopyralid risk (where possible)	8	53%	
Testing practices (for all survey participants, i.e. from 'relevant' organisations)			
Currently testing	12	80%	
Not testing prior to survey but now will, or will consider testing	1	7%	
Not currently testing	2	13%	15
		100%	
Regularity of testing (for those currently testing)			
Testing from time to time - i.e. annual, biannual test or less frequent	3	25%	
Regular or frequent testing - more than biannually right through to continuous	9	75%	12
		100%	
Form of testing (for those currently testing)			
growth test	1	8%	
laboratory test	9	75%	
both	2	17%	12
		100%	
Results - absolute (for those currently testing)			
Clopyralid present / detected	7	58%	
Clopyralid not present / below detectable levels	4	33%	
Detected in past but not in last 12 months	1	8%	12
		100%	
Results - scale of presence (for those currently undertaking lab testing)			
Testing shows non-detected or detected but less than 20 ppb (in all results available)	7	58%	
Testing shows more than 20 ppb (any high result rather than all high result)	5	42%	
Not known		0%	12
		100%	
Effectiveness of separation			
No. of facilities separating grass clippings but still detecting lower levels of clopyralid, <10 ppb	1	13%	
No. of facilities separating grass clippings but still detecting clopyralid, >20 ppb	2	25%	
No. of facilities separating grass clippings and not detecting clopyralid	2	25%	
No. of facilities separating grass clippings but not testing for clopyralid**	3	38%	8
		100%	

*facility separating out grass clippings from commercial loads, but can't separate from residential kerbside collection

**one facility separating out grass clippings and testing, but new product so insufficient test results currently available for clear result