

31 March 2017

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Joint Council Feedback on Beneficial Use of Organic Waste Products on Land

Dear Nick

Please find attached feedback from the councils that are collaborating on a project to develop a joint biosolids strategy in their region, and two councils in the South Island. The councils involved are:

- Manawatu District Council & Rangitikei District Council
- Tararua District Council
- Whanganui District Council
- Masterton District Council
- Kapiti Coast District Council
- Horowhenua District Council
- Ruapehu District Council
- Horizons Regional Council
- Palmerston North City Council
- Christchurch City Council
- Queenstown lakes District Council

Yours sincerely



Gallo Saidy
Deputy Chair of the Collective Biosolids Strategy Project

Enclosure

» **Feedback tables**

Table 1. Key changes to the 2003 Biosolids Guidelines and Potential Issues

Issue	Reference / page number	Summary	Possible issues
No longer limited to biosolids; includes other organic waste materials, particularly from animals.	Vol 1: section 1.1.1 pg 1	<ul style="list-style-type: none"> • Household organic wastes (food waste, green waste) • Paper and cardboard • Primary sector related organic wastes, e.g. agricultural wastes, meat works wastes • Manures • Sewage sludge • Pulp and paper waste • Biodegradable nappies and sanitary items 	<p>It is unclear which parts of the new guideline apply to which wastes, for example, some contaminant limits apply to only biosolids. A flow diagram may aid this.</p> <p>It is also not clearly stated that if your waste is NOT a biosolid then there may be industry specific contaminants that may need to be addressed.</p> <p>Meat works wastes consents for application to land most commonly used the 2003 guidelines – these are not specifically dealt with in this guideline and it is unclear if they are classed as a biosolids or manure.</p>
A simpler grading system.	Vol 1: section 5.1.1 pg 13	<p>Grade Aa and Bb are replaced by 'Type' 1A, 1B.</p> <p>Grade A (pathogens) = Type 1A - Permitted Activity</p> <p>Grade B (pathogens) = Type 1B - Controlled Activity.</p>	<p>Potential conflict in terminology with regional and district plans? Perhaps a better grading terminology can be used, i.e. colour coded system.</p>

Issue	Reference / page number	Summary	Possible issues
<p>Minimal change to pathogen grading requirements but only a minimum compliance level for contaminant grading.</p>	<p>Vol 1: table 5-4 pg 16. Separate report CIBR Publication 012 Pathogens Review August 2014 (link no longer on the WaterNZ website)</p>	<p><i>E. coli</i> less than 100 MPN/g <i>Campylobacter</i> less than 1/25g <i>Salmonella</i> less than <2 MPN/g human adenovirus less than 1 PFU/0.25g helminth ova less than 1/4g Human adenovirus is specified as the entero-virus for monitoring.</p>	<p>Pathogen detection limits have changed from the 2003 guideline to match improvements in methodology. <i>Giardia</i> and <i>Cryptosporidium</i> are still not included in the guidelines due to problems with methodology. Human adenovirus different to Australian guidelines that use bacteriophage as a virus indicator. BUT more relevant and bacteriophage often found in higher numbers (causing problems in WA).</p>
<p>Metal contaminant limits are the 2003 Biosolids Guidelines 'b' grade limits and are used as a minimum product quality criteria.</p>	<p>Vol 1: stable 5-5 pg 17</p>	<p>No "Grade a" metal limits; environmental contamination protected by N limits. Grade b limits exist to avoid dumping of contaminated material. If biosolids does not meet Grade b metals then it is classified as either a Type 2A or 2B depending on pathogens and should be reused under a specific resource consent or safely disposed of.</p>	<p>Potential conflict with regional and district plans?</p>

Issue	Reference / page number	Summary	Possible issues
<p>Only measure emerging organic contaminants, not historical banned substances e.g. Dioxins.</p>	<p>Vol 1: Table 5-5 pg 17;</p>	<ul style="list-style-type: none"> • Perfluoro compounds (PFOS and PFOA) • Absorbable organic halogens (AOX) • Polycyclic aromatic hydrocarbons (PAH sum) • Nonyl phenol and ethoxylates (NP/NPE) • Phthalate (DEHP) • Linear alkydbenzene sulphonates (LAS) • Musks – Tonalide • Musks – Galaxolid 	<p>How many labs can offer this analysis and how much will it cost compared to the current list?</p> <p>Do we need to test for these chemicals for every end-use?</p> <p>Do we need to test for every type of organic waste?</p>

Issue	Reference / page number	Summary	Possible issues
<p>Organic contaminant limits are related to existing EU guidance. There is limited New Zealand supporting data.</p>	<p>Separate report CIBR Publication 012 Organic Contaminants Review August 2014. Link on pg 66 Vol 2.</p>	<p>The organic contaminants listed in Table 4.2 of the 2003 NZ guidelines are obsolete. New contaminants considered in view of recent findings on the levels and risk potential of EOCs in biosolids. Not enough information to derive New Zealand specific limits, interim values based on international data sets.</p>	<p>What are these limits based on? Risk (impacts and effects on flora and fauna) or detection??? We know that the emerging contaminants proposed can cause environmental impacts. We know they are present in similar levels in NZ biosolids as overseas. We have very limited data on the concentration that are harmful in order to determine limit concentrations. Should we remove organic contaminants until we have robust 'risk' values OR should we begin to collect data for all biosolids applied to land so that a New Zealand database can be established more quickly, giving a greater ability for evidence based review?</p>
<p>Excludes a soil specification; this is dealt with by other guidance.</p>	<p>No information provided on the Envirolink funded project to develop soil guideline values for the protection of ecological receptors (Eco-SGVs); or how the two guidelines will work together/align.</p>	<p>The Eco-SGVs will provide limits for contaminants in soil.</p>	<p>Will the Eco-SGVs be too conservative and limit organic waste application to land?</p>

Issue	Reference / page number	Summary	Possible issues
Nitrogen limits are used as the primary land application control; assessments have shown this to be an effective means of limiting contaminant applications for good quality products.	Vol 1: section 9.1 pg 37	Total N - 200 Kg N/Ha/year limit for productive land 150 kg mineral N /Ha for degraded or contaminated land	Does this give assurance that soil quality will be protected? How is degraded land defined?
Manure management controls are similar to current good farming practices with additional measurement and documentation encouraged but not mandatory.	Vol 1: section 5.3 pg 19	Manures need not comply with the same sampling, analysis and documentation protocols as biosolids. Will likely be Type 1B or 2B, managed under existing regional plan rules or existing consents.	No recommendation to compost; what about meat works wastes?
Soil monitoring.	Vol 1: section 6.8 pg 23	Soil tested before land application to determine the existing soil contaminant concentration and for background <i>E. coli</i> levels when Type 1B and 2B materials are to be applied.	There are no longer any soil limits in this guideline.
Background Pathogen Level Effects.	Vol 1: section 9.6 pg 39	Site access restrictions should not be removed unless it can be demonstrated that <i>E. coli</i> levels have reduced to the original background levels.	Increased testing requirements; but potential decreases in exclusion periods and site access restrictions.

Issue	Reference / page number	Summary	Possible issues
Alternative Stabilisation Methods	Vol 1: Table 5-1 pg 14 Vol 1: section 6.3 pg 20	Any process which can demonstrate Grade A quality compliance using a rigorous documented process that can be replicated using the documented proven process parameters and quality controls. For batch production, e.g. composts and vermi-composts all product batches should be tested.	Allows the use of alternative stabilisation processes such as vermicomposting. BUT should the alternative have to demonstrate compliance for each batch if it is a biological process (e.g. vermicomposting).
Product Monitoring	Vol 1: section 6.3 pg 20	Pathogen monitoring should be undertaken on both the unprocessed material and the final product to positively confirm pathogen removal. The final product should also be sampled just prior to use (or sale) as pathogenic organisms may regrow	Increased analysis costs.
Pathogen Regrowth	Vol 1: section 6.4 pg 21	Regrowth testing for <i>E. coli</i> is required in order to demonstrate that the treatment process is working effectively.	Increased analysis costs. Unclear when this is to be done? If a product is being stored before use or sale?

Table 2. Other issues to consider

Issue	Reference / page number	Summary	Possible issues
Soil incorporation is required for wastes that contain pathogens	Table 3-3 pg 6; section 9.4 pg 38.	Type 1B and 2B of human origin: soil incorporation within 24 hours of application, to a depth of at least 100 mm, preferably 200 mm. Type 1A and 2A of human origin: soil incorporation preferred but not required	Soil incorporation is not always possible, nor preferable. It requires application to fit in with farm crop rotations.
References dioxin	Volume 2: section 2.6.2.2 pg 39	Other issues: There is a less stringent requirement for dioxin sampling than there is for metals and the other organic contaminants, mainly because of the expense of this analysis. During the verification period one dioxin sample should be prepared which is made up of one sample per day taken over the three-month period. If this sample is compliant with the limits given in Table 7.2, then only one dioxin sample needs to be analysed annually. The sample taken under the routine monitoring regime should be a composite of one sample taken weekly over a year-long period. If the sample is not compliant, then full verification must be undertaken.	This should be removed.

Issue	Reference / page number	Summary	Possible issues
Community and iwi	Volume 2: section 7.1 pg 67	Reference to community engagement frameworks	Should be in Volume 1.
The HAIL (Hazardous Activities And Industries List excludes biosolids		The exemption is in place so that sites with applied biosolids or effluent do not get classified as HAIL sites.	Should this be referred to in the new guidelines?