Specification for the Supply of Recycled Urban Wood for Broiler Chicken Bedding 2012
These guidelines have been prepared by the Timber Development Association (NSW) Ltd (TDA) in partnership with the NSW Environment Protection Authority (EPA).

**Disclaimers**

The EPA and TDA have made all reasonable efforts to ensure that the contents of this document are factual and free of error, omission or inaccurate information. Neither the EPA nor TDA shall be liable for any damage or loss that may occur in relation to any person taking or not taking action on the basis of this document.

**Acknowledgements**

The TDA wishes to thank people from the following organisations and companies who have given their time and knowledge generously – particularly Rob James of Direct Pallets, Peter Cashman of NSW Farmers Association and staff of the Eastern Metropolitan Regional Council.

© Environment Protection Authority (EPA) and Timber Development Association (NSW), December 2012
1. Scope

This Specification covers the supply of recycled urban wood materials predominantly comprising end-of-life wood pallets and packaging for use as broiler chicken bedding. The requirements of this Specification are appropriate for most broiler chicken farms operated by contract growers in New South Wales.

Purchasers of broiler chicken bedding must be satisfied that the Specification is suitable for their local conditions and for the users of the spent litter.

Nothing in this Specification limits the scope for adopting innovative strategies for blending other materials such as agricultural crop and forestry residues to achieve the required outcome.

2. Terminology

The terms used in this Specification are as follows:

**Purchaser** means the organisation, business or individual that contracts to buy materials.

**Supplier** means the organisation, business or individual under contract to the purchaser for the supply of materials contained in this Specification.

**Urban wood** means untreated and uncontaminated urban derived timber and wood material that is collected as a separate material stream for processing. Urban wood includes materials such as sawn timber off-cuts, saw dust, wood shavings, packaging crates and pallets but does not include preservative treated or coated wood or engineered wood products.

**Preservative treated and coated/painted wood residues** means wood residues that are preservative treated with chemicals such as copper chrome arsenate (CCA), creosote or other wood preservatives and/or coated with substances such as varnish or paint.

**Engineered wood products (EWP)** means engineered or composite wood products such as particleboard, medium density fibreboard, oriented strand board, pressed wood, plywood, laminated veneer lumber or glulam.

**Untreated new wood residues** means new green or kiln-dried wood in the form of offcuts, sawdust, or shavings not treated with wood preservatives and collected as a separate material stream from a primary manufacturer (i.e. sawmill) or secondary producer (e.g. cabinet maker, joinery etc).

**Composite sample** means a sample that combines discrete sub-samples into a single sample for the purpose of analysis.
3. Using recycled materials

Broiler bedding made from recycled urban wood provides a number of benefits, including:

- providing a soft and insulating surface for chickens which absorbs manure and moisture
- inhibits ammonia production and the spread of disease
- competitive on price and performance compared to alternative bedding materials
- easy spreading
- low dust content
- easy maintenance.

Using this material is also saving this resource from being sent to landfill and potentially significantly contributing to a reduction in greenhouse gas emissions.

4. Material quality

The following quality control steps must be implemented to negate and address any contamination issues:

- rejection of contaminated loads
- separate storage of incoming loads to prevent cross-contamination with processed shredded wood
- targeted education of wood generators to prevent contamination
- manual separation of any plastics, paper and other foreign matter
- magnets at each shredding stage to remove metal nails and other fixings
- screening of shredded wood to extract metal nails and other fixings and excess grit
- storage of shredded wood away from incoming wood to avoid cross contamination.

Bedding must conform to the properties outlined in Table 1. If required, the supplier must provide test certificates from a National Association of Testing Authorities, Australia (NATA) accredited laboratory confirming that the material complies with this Specification. The minimum testing requirements are set out in, Section 6.

The requirements for particle size distribution given in Table 1 show the limits for each individual sieve size.
5. Contaminants

The supplier shall have in place quality control processes, screening and storage facilities to prevent the inclusion and facilitate removal of all foreign materials, rotting or mouldy wood, preservative treated and painted wood and engineered wood products in the final product.

<table>
<thead>
<tr>
<th>Constituent/property</th>
<th>Test Method</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Material Proportions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban wood residue (max% by mass)</td>
<td></td>
<td>100</td>
</tr>
<tr>
<td><strong>Particle Size Distribution</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% passing 13.2 mm sieve</td>
<td>Modified AS4454-Appendix G or AS1141.11</td>
<td>100</td>
</tr>
<tr>
<td>% passing 4.75 mm sieve</td>
<td></td>
<td>95 ± 5%</td>
</tr>
<tr>
<td>% passing 1.18 mm sieve</td>
<td></td>
<td>65 ± 5%</td>
</tr>
<tr>
<td>% passing 600 µm sieve</td>
<td></td>
<td>25 ± 10%</td>
</tr>
<tr>
<td><strong>Moisture content</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(max % by mass)</td>
<td>AS4454-Appendix H or AS/NZS 1301.010s:2007</td>
<td>18</td>
</tr>
<tr>
<td><strong>Physical contaminants</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(max% by mass)</td>
<td>Modified AS4454-Appendix H or R276</td>
<td>0</td>
</tr>
<tr>
<td><strong>CCA treated timber</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(max% by mass)</td>
<td>Standard metals screen</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 1: Specification requirements for supply of urban wood broiler bedding
6. Sampling and testing (quality assurance)

In carrying out conformity testing, the current issue of the following Australian Standards and test methods shall be used unless otherwise specified:

<table>
<thead>
<tr>
<th>Standard / method number</th>
<th>Standard / method</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS4454 Appendix G</td>
<td>Method for Determining Particle Size Grading</td>
</tr>
<tr>
<td>AS1141.11</td>
<td>Particle Size Distribution by Sieving</td>
</tr>
<tr>
<td>AS4454 Appendix H</td>
<td>Method for Determining Moisture Content and Level of Visible Contamination</td>
</tr>
<tr>
<td>AS/NZS 1301.010s:2007</td>
<td>Determination of moisture in wood chips</td>
</tr>
<tr>
<td>RTA test T276</td>
<td>Physical contaminants</td>
</tr>
<tr>
<td></td>
<td>Standard metals screen</td>
</tr>
</tbody>
</table>

Table 2: Sampling and testing methods

The supplier shall provide test certificates as required for each material class prior to delivery.

Discrete sub-samples and composite samples will be gathered by a person of suitable experience, packed securely, labelled and forwarded to NATA accredited facility for homogenisation and standard sample splitting and sample reduction techniques used to obtain a representative sub-sample for analysis.

The label shall contain the following information:

- product
- supplier
- date
- company code
- composite sample number
- taken by
- sample for.

The analysis must be undertaken by a NATA accredited laboratory, which must supply certificates identifying:

- the supplier’s name
- material type
- date of sample
- quantity of material represented by the test results
- the specification limits.
A sample shall be a composite sample of five litres and composed of five discrete sub-samples of one litre each and collected at random from the stockpile of shredded wood.

The minimum sampling and testing requirements for the materials classes are set out in Table 3. Where the supplier demonstrates to the satisfaction of the purchaser that process control for the previous six months of supply of the same material has achieved a consistent product, testing can be reduced to testing as shown in brackets in Table 3.

<table>
<thead>
<tr>
<th>Constituent/property</th>
<th>Testing frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCA treated timber</td>
<td>1 per 2,000 m$^3$ or 1 per week if less than 2,000m$^3$</td>
</tr>
<tr>
<td>Particle size distribution</td>
<td>As requested by purchasers</td>
</tr>
<tr>
<td>Moisture content</td>
<td>As requested by purchasers</td>
</tr>
<tr>
<td>Visible contamination with non-wood constituents</td>
<td>1 per 2,000 m$^3$ or 1 per week if less than 2,000m$^3$</td>
</tr>
</tbody>
</table>

Table 3: Minimum number of samples required

The supplier shall undertake at their expense, any testing for contaminants that the grower requires including, but not restricted to, testing for the absence of preservative treated timber.

The purchaser reserves the right at any stage to take tests of any material to check the conformance to the requirements of the specification. If any such tests fail it will be the responsibility of the supplier to remove the material from site. The cost of removing the material and replacing it with material conforming to the specification shall be at the supplier’s expense.

7. Certified stockpiles

Material must be supplied from stockpiles that have been tested and shown to conform to the requirements of this Specification prior to sale to a grower. The maximum size of each individual stockpile should not exceed 2,000 cubic metres unless otherwise agreed in writing by the purchaser. Certified stockpiles must be created to prevent segregation or mixing with other materials and must be clearly sign posted with unique identification numbers.

Certified stockpiles must be formed on firm ground that is clean, well-drained and free of all foreign material which might contaminate the material to be certified. This includes but is not limited to all forms of vegetation, preservative treated timber, soil, material containing oils or oil deposits and remnants of previous stockpiles of dissimilar material. Stockpiles must be constructed in horizontal layers. Additional layers shall be fully contained on the underlying layer.

Once a stockpile has been sampled and tested, further material must not be added to the stockpile.
8. **Transport and vendor declaration**

Bedding must be delivered in a clean truck.

Material must be transported directly from the source of supply to the work in vehicles constructed to prevent loss or the addition of non-conforming material.

The moisture content must not be greater than the optimum moisture content as defined in Table 1 or as requested by the purchaser and be protected from the rain during transport.

The material may be either discharged from the transport vehicle into stockpiles or at the locations where it will be finally used.

The supplier must provide delivery dockets to the purchaser for each truckload of material identifying the material type, the supplier’s name and the cubic metres of material being delivered.

The bedding supplier must provide a vendor declaration certifying the material to be free of contamination such as, but not restricted to treated pine.

Any non-conforming material delivered to site must be replaced by conforming material as directed by the purchaser, at no additional cost to the purchaser.

9. **Used litter**

Used material intended for reuse in land application must meet the conditions of a relevant Resource Recovery Exemption such as *The raw mulch exemption 2008* or *The food waste compost exemption 2008*. Copies of these exemptions are available online at [environment.nsw.gov.au/waste/generalRRE.htm](http://environment.nsw.gov.au/waste/generalRRE.htm)