

| <b>COMPOST AUSTRALIA - ORGANICS INDUSTRY</b>            |                       | <b>National</b>  | <b>NSW</b>       | <b>Vic</b>     | <b>WA</b>      | <b>SA</b>      |
|---|-----------------------|------------------|------------------|----------------|----------------|----------------|
| <b>National Aggregate Survey 2004/05 Financial Year</b> |                       | <b>total</b>     | <b>total</b>     | <b>total</b>   | <b>total</b>   | <b>total</b>   |
| <b>SECTION A - Organisation details</b>                 |                       |                  |                  |                |                |                |
| <b>2 Facility type</b>                                  | <b>Total No.</b>      | <b>140</b>       | <b>44</b>        | <b>44</b>      | <b>23</b>      | <b>29</b>      |
| On-farm operation                                       |                       | 9                | 1                |                | 1              | 7              |
| Council facility  |                       | 6                |                  | 4              |                | 2              |
| Licensed commercial facility                            |                       | 102              | 36               | 26             | 22             | 18             |
| Other <sup>1</sup>                                      |                       | 23               | 7                | 14             |                | 2              |
|   | <b>Response rate%</b> | <b>95</b>        | <b>98</b>        | <b>89</b>      | <b>96</b>      | <b>97</b>      |
| <b>SECTION B: Raw materials received/processed</b>      |                       |                  |                  |                |                |                |
| <b>3 Total quantity of raw materials processed</b>      | <b>t</b>              | <b>3,021,883</b> | <b>1,271,883</b> | <b>649,168</b> | <b>539,363</b> | <b>561,470</b> |
| <b>4 Types of raw materials processed</b>               |                       |                  |                  |                |                |                |
| Garden organics   | t                     | 1,139,117        | 468,774          | 310,054        | 171,679        | 188,610        |
| Wood/timber packaging                                   | t                     | 146,482          | 40,379           | 96,103         |                | 10,000         |
| Wood/timber other                                       | t                     | 47,652           | 3,130            | 41,212         | 30             | 3,280          |
| Sawdust   | t                     | 139,372          | 86,307           | 26,465         | 20,100         | 6,500          |
| Barks   | t                     | 448,301          | 69,748           | 91,053         | 101,300        | 186,200        |
| Food organics   | t                     | 100,447          | 76,880           | 12,866         | 161            | 10,540         |
| Biosolids/grit/screenings                               | t                     | 120,650          | 79,400           | 20,250         | 21,000         |                |
| Oils, grease trap, sludges                              | t                     | 75,131           | 6,000            | 31,911         | 23,520         | 13,700         |
| Straw   | t                     | 19,100           |                  |                | 2,350          | 16,750         |
| Manure  | t                     | 448,643          | 376,708          | 1,005          | 34,830         | 36,100         |
| Animal bedding  | t                     | 25,000           |                  |                | 9,000          | 16,000         |
| Animal mortalities                                      | t                     | 5,013            | 1,113            |                | 3,000          | 900            |
| Paunch  | t                     | 7,220            | 500              | 1,360          | 3,360          | 2,000          |
| Other - Miscellaneous agricultural organics             | t                     | 31,562           | 6,736            | 396            | 5,500          | 18,930         |
| Other - Paper pulp/sludge                               | t                     | 55,998           | 5,968            |                |                | 50,030         |
| Other - MSW (organic fraction)                          | t                     | 119,385          | 36,000           |                | 83,385         |                |
| Other - Biowaste  | t                     | 5,000            | 5,000            |                |                |                |
| Other - Miscellaneous                                   | t                     | 87,811           | 9,240            | 16,493         | 60,148         | 1,930          |

**SECTION C: Recycled organics product types and quantities sold**
**5 Total quantity of product sold, recycled organics content<sup>2</sup>, market breakdown**

|  |                      |                |                |                |                |                |
|--|----------------------|----------------|----------------|----------------|----------------|----------------|
| <i>Composted soil conditioner</i>        |                      |                |                |                |                |                |
| <b>Quantity product sold<sup>3</sup></b> | <b>m<sup>3</sup></b> | <b>783,692</b> | <b>345,772</b> | <b>109,320</b> | <b>127,780</b> | <b>200,820</b> |
| Recycled organic content                 | %                    | 95             | 100            | 88             | 100            | 92             |
| Intensive agriculture                    | m <sup>3</sup>       | 97,969         | 19,675         |                | 19,170         | 59,124         |
| Extensive agriculture                    | m <sup>3</sup>       | 49,395         | 10,395         |                | 39,000         |                |
| Urban amenity                            | m <sup>3</sup>       | 426,559        | 272,603        | 74,320         | 66,030         | 13,606         |
| Rehabilitation                           | m <sup>3</sup>       | 7,222          | 4,142          |                | 3,080          |                |
| Enviro-remediation                       | m <sup>3</sup>       | 3,352          | 2,852          |                | 500            |                |
| <i>Pasteurised soil conditioner</i>      |                      |                |                |                |                |                |
| <b>Quantity product sold</b>             | <b>m<sup>3</sup></b> | <b>55,000</b>  | <b>15,000</b>  | <b>20,000</b>  |                | <b>20,000</b>  |
| Recycled organic content                 | %                    | 100            | 100            | 100            | 100            | 100            |
| Intensive agriculture                    | m <sup>3</sup>       | 9,000          |                |                |                | 9,000          |
| Extensive agriculture                    |                      | 9,000          |                |                |                | 9,000          |
| Urban amenity                            | m <sup>3</sup>       | 37,000         | 15,000         | 20,000         |                | 2,000          |
| Rehabilitation                           |                      | 0              |                |                |                |                |
| Enviro-remediation                       |                      | 0              |                |                |                |                |
| <i>Composted mulch</i>                   |                      |                |                |                |                |                |
| <b>Quantity product sold</b>             | <b>m<sup>3</sup></b> | <b>478,640</b> | <b>40,720</b>  | <b>48,320</b>  | <b>223,550</b> | <b>166,050</b> |
| Recycled organic content                 | %                    | 96             | 100            | 82             | 100            | 100            |
| Intensive agriculture                    | m <sup>3</sup>       | 45,797         | 2,500          | 2,347          | 8,550          | 32,400         |
| Extensive agriculture                    |                      | 4,000          |                | 4,000          |                |                |
| Urban amenity                            | m <sup>3</sup>       | 269,895        | 22,297         | 18,098         | 213,000        | 16,500         |
| Rehabilitation                           | m <sup>3</sup>       | 30,066         | 14,691         | 13,875         | 1,000          | 500            |
| Enviro-remediation                       | m <sup>3</sup>       | 1,144          | 144            |                | 1,000          |                |
| <i>Pasteurised mulch</i>                 |                      |                |                |                |                |                |
| <b>Quantity product sold</b>             | <b>m<sup>3</sup></b> | <b>176,186</b> | <b>11,186</b>  | <b>105,000</b> |                | <b>60,000</b>  |
| Recycled organic content                 | %                    | 100            | 100            | 100            | 100            | 100            |
| Intensive agriculture                    |                      | 12,500         |                |                |                | 12,500         |
| Extensive agriculture                    |                      | 0              |                |                |                |                |
| Urban amenity                            | m <sup>3</sup>       | 94,212         | 6,712          | 75,000         |                | 12,500         |
| Rehabilitation                           | m <sup>3</sup>       | 34,474         | 4,474          | 30,000         |                |                |
| Enviro-remediation                       |                      | 0              |                |                |                |                |
| <i>Raw mulch</i>                         |                      |                |                |                |                |                |
| <b>Quantity product sold</b>             | <b>m<sup>3</sup></b> | <b>661,260</b> | <b>87,618</b>  | <b>186,742</b> | <b>271,900</b> | <b>115,000</b> |
| Recycled organic content                 | %                    | 93             | 100            | 74             | 100            | 100            |
| Intensive agriculture                    |                      | 25,000         |                |                | 25,000         |                |
| Extensive agriculture                    |                      | 0              |                |                |                |                |
| Urban amenity                            | m <sup>3</sup>       | 438,999        | 38,275         | 149,324        | 237,900        | 13,500         |
| Rehabilitation                           | m <sup>3</sup>       | 25,309         | 1,591          | 22,218         |                | 1,500          |
| Enviro-remediation                       | m <sup>3</sup>       | 6,152          | 4,152          | 2,000          |                |                |
| <i>Manufactured soil</i>                 |                      |                |                |                |                |                |
| <b>Quantity product sold</b>             | <b>m<sup>3</sup></b> | <b>538,033</b> | <b>275,258</b> | <b>110,000</b> | <b>128,375</b> | <b>24,400</b>  |
| Total RO content in product              | m <sup>3</sup>       | 291,644        | 169,224        | 52,800         | 64,900         | 4,720          |
| Recycled organic content                 | %                    | 45             | 40 - 85        | 63             | 40 - 85        | 28             |
| Intensive agriculture                    | m <sup>3</sup>       | 6,588          | 1,788          | 4,800          |                |                |
| Urban amenity                            | m <sup>3</sup>       | 411,435        | 263,860        | 15,200         | 128,375        | 4,000          |
| Rehabilitation                           | m <sup>3</sup>       | 7,822          | 7,822          |                |                |                |
| Enviro-remediation                       | m <sup>3</sup>       | 4,805          | 4,805          |                |                |                |
| <i>Potting mixes</i>                     |                      |                |                |                |                |                |
| <b>Quantity product sold</b>             | <b>m<sup>3</sup></b> | <b>353,500</b> | <b>38,750</b>  | <b>79,300</b>  | <b>85,450</b>  | <b>150,000</b> |
| Total RO content in product              | m <sup>3</sup>       | 202,260        | 14,675         | 25,660         | 31,925         | 130,000        |
| Recycled organic content                 | %                    | 78             | 75 - 100       | 78             | 75 - 100       | 50 - 100       |
| Intensive agriculture                    | m <sup>3</sup>       | 102,138        | 8,138          |                |                | 94,000         |
| Urban amenity                            | m <sup>3</sup>       | 200,063        | 30,613         | 48,000         | 85,450         | 36,000         |

| <b>SECTION C: Recycled organics product types and quantities sold (continued)</b> |   |                      |                  |                |                |                  |
|---|---|----------------------|------------------|----------------|----------------|------------------|
| <i>Playground surfacing</i>   |   |                      |                  |                |                |                  |
|   | <b>Quantity product sold</b>                                    | <b>m<sup>3</sup></b> | <b>78,960</b>    | <b>18,250</b>  | <b>48,710</b>  | <b>12,000</b>    |
|   | Recycled organic content  | %                    | 75               | 100            | 100            | 100              |
|   | Urban amenity   | m <sup>3</sup>       | 68,960           | 18,250         | 48,710         | 2,000            |
| <i>Biofuels/biogas (methane)</i>  |   |                      |                  |                |                |                  |
|   | <b>Quantity product sold</b>                                    |                      | <b>0</b>         |                |                |                  |
| <i>Biofuels/solid fuel</i>  |   |                      |                  |                |                |                  |
|   | <b>Quantity product sold</b>                                    | <b>m<sup>3</sup></b> | <b>38,285</b>    | <b>36,800</b>  | <b>1,485</b>   |                  |
| <i>Other - Composted products</i>   |   |                      |                  |                |                |                  |
|   | <b>Quantity product sold</b>                                    | <b>m<sup>3</sup></b> | <b>78,500</b>    | <b>28,875</b>  | <b>2,800</b>   | <b>37,825</b>    |
|   | Recycled organic content  | %                    | 61               | 85             | 60             | 100              |
|   | Intensive agriculture   | m <sup>3</sup>       | 9,650            | 9,650          |                |                  |
|   | Extensive agriculture   | m <sup>3</sup>       | 0                |                |                |                  |
|   | Urban amenity   | m <sup>3</sup>       | 56,675           | 18,850         |                | 37,825           |
|   | Rehabilitation  | m <sup>3</sup>       | 0                |                |                |                  |
|   | Enviro-remediation  | m <sup>3</sup>       | 0                |                |                |                  |
| <i>Other - Organic fertiliser</i>   |   |                      |                  |                |                |                  |
|   | <b>Quantity product sold</b>                                    | <b>t</b>             | <b>29,350</b>    | <b>29,350</b>  |                |                  |
|   | Recycled organic content  | %                    | 25               | 100            |                |                  |
|   | Intensive agriculture   | t                    | 8,265            | 8,265          |                |                  |
|   | Extensive agriculture   | t                    | 8,265            | 8,265          |                |                  |
|   | Urban amenity   | t                    | 11,020           | 11,020         |                |                  |
|   | Rehabilitation  |                      | 0                |                |                |                  |
|   | Enviro-remediation  |                      | 0                |                |                |                  |
| <i>Other - Composted manure</i>   |   |                      |                  |                |                |                  |
|   | <b>Quantity product sold</b>                                    | <b>m<sup>3</sup></b> | <b>301,550</b>   | <b>230,800</b> | <b>7,000</b>   | <b>18,750</b>    |
|   | Recycled organic content  | %                    | 125              | 200            | 100            | 100              |
|   | Intensive agriculture   | m <sup>3</sup>       | 221,500          | 184,000        |                | 13,500           |
|   | Extensive agriculture   | m <sup>3</sup>       | 56,250           | 46,000         |                | 1,250            |
|   | Urban amenity   |                      | 14,800           | 800            | 1,000          | 4,000            |
|   | Rehabilitation  |                      | 9,000            |                | 6,000          | 3,000            |
|   | Enviro-remediation  |                      | 0                |                |                |                  |
| <i>Other - Raw manure</i>   |   |                      |                  |                |                |                  |
|   | <b>Quantity product sold</b>                                    | <b>m<sup>3</sup></b> | <b>73,000</b>    | <b>65,000</b>  |                | <b>8,000</b>     |
|   | Recycled organic content  | %                    | 25               | 100            |                |                  |
|   | Intensive agriculture   | m <sup>3</sup>       | 33,350           | 30,550         |                | 2,800            |
|   | Extensive agriculture   | m <sup>3</sup>       | 13,570           | 8,450          |                | 5,120            |
|   | Urban amenity   |                      | 0                |                |                |                  |
|   | Rehabilitation  |                      | 0                |                |                |                  |
|   | Enviro-remediation  |                      | 0                |                |                |                  |
| <i>Other - Direct land application</i>  |   |                      |                  |                |                |                  |
|   | <b>Quantity product sold</b>                                    | <b>m<sup>3</sup></b> | <b>54,000</b>    | <b>54,000</b>  |                |                  |
|   | Recycled organic content  | %                    | 25               | 100            |                |                  |
|   | Food organics   | m <sup>3</sup>       | 30,000           | 30,000         |                |                  |
|   | Biosolids   | m <sup>3</sup>       | 24,000           | 24,000         |                |                  |
|   | Other   |                      | 0                |                |                |                  |
| <i>Other - Aqueous compost extracts</i>   |   |                      |                  |                |                |                  |
|   | <b>Quantity product sold</b>                                    | <b>L</b>             | <b>2,100,000</b> | <b>100,000</b> |                | <b>2,000,000</b> |
|   | Intensive agriculture   | L                    | 1,400,000        |                |                | 1,400,000        |
|   | Extensive agriculture   | L                    | 0                |                |                |                  |
|   | Urban amenity   | L                    | 600,000          |                |                | 600,000          |
|   | Rehabilitation  |                      | 0                |                |                |                  |
|   | Enviro-remediation  |                      | 0                |                |                |                  |
| <b>SECTION D: Inventory on site</b>   |   |                      |                  |                |                |                  |
|   | <b>6 Raw materials onsite 30-06-04<sup>4</sup></b>              | <b>m<sup>3</sup></b> | <b>1,109,191</b> | <b>416,787</b> | <b>67,904</b>  | <b>57,000</b>    |
|   | <b>Finished products onsite 30-06-05<sup>4</sup></b>            | <b>m<sup>3</sup></b> | <b>134,008</b>   | <b>4,990</b>   | <b>59,668</b>  | <b>26,300</b>    |
|   | <b>Total all materials/products onsite 30-06-05<sup>4</sup></b> | <b>m<sup>3</sup></b> | <b>1,283,199</b> | <b>421,777</b> | <b>127,572</b> | <b>123,300</b>   |

**SECTION E: Industry issues and priorities**
**7 Industry issues, priorities**
*Higher value represents a higher priority for industry*

|   |     |    |    |    |
|---|-----|----|----|----|
| 7.1 Industry structural economics & government incentives   | 18  | 12 | 3  | 3  |
| 7.2 Gate fees too low (metro areas)/ tender appraisal is price driven   | 42  | 18 | 12 | 6  |
| 7.3 Raw materials contamination   | 51  | 15 | 24 | 3  |
| 7.4 Site regulation and planning consent - inconsistent, unnecessarily costly, requirements don't support policy          | 117 | 36 | 21 | 27 |
| 7.5 Development of new products/markets (particularly agriculture)  | 30  | 18 | 6  | 6  |
| 7.6 Saturation of particular markets  | 33  | 24 | 3  | 3  |
| 7.7 Govt interference in markets / direct govt interaction with customers   | 12  |    | 3  | 9  |
| 7.8 Research and development / inadequate compost performance data  | 24  | 12 | 3  | 3  |
| 7.9 Product quality standards need revision   | 36  | 21 | 3  | 12 |
| 7.10 Technical support and training   | 15  | 9  |    | 3  |
| 7.11 viable product price is unaffordable for customers key markets   | 27  | 9  | 3  | 3  |
| 7.12 Industry organisation and communication  | 12  | 3  | 6  | 3  |
| 7.13 R&D ignoring customer affordability  | 12  | 3  | 6  | 3  |
| 7.14 limited government purchasing / green purchasing   | 6   | 3  | 3  |    |
| 7.15 Uncompetetive /non-commercial competition in service delivery from local govt facilities, driving price/quality down | 18  | 3  | 3  | 12 |
| 7.16 Major chains are price driven and will not pay for quality   | 3   | 3  |    |    |
| 7.17 Industry branding ('waste')/ obsolete market perceptions   | 9   | 6  | 3  |    |
| 7.18 limited transfer of research into practice   | 3   | 3  |    |    |
| 7.19 Increasing fuel price/transport costs  | 15  |    | 12 | 3  |
| 7.20 Govt drive to force non-viable investment into high tech composting  | 9   |    | 3  | 6  |
| 7.21 Food waste separation not supported / not financially viable   | 6   | 6  |    |    |
| 7.22 Complaints from neighbours   | 0   |    |    |    |
| 7.23 Financial incentives for Growers (e.g rebate)  | 27  | 18 |    | 9  |
| 7.24 Cheap sub-standard products marketed under same product name   | 18  |    | 6  | 12 |
| 7.25 financial and other govt support for waste to energy options   | 6   |    | 6  |    |
| 7.26 standard quality assurance procedures needed   | 6   | 3  | 3  |    |
| 7.27 Mechanism required for recovering ecoservices value  | 6   | 3  | 3  |    |
| 7.28 Unaffordable new demands from regulators forcing exit from industry  | 18  |    | 3  | 15 |
| 7.29 C&D waste dumped in to market  | 12  | 6  |    | 3  |
| 7.30 No gate fee/levy in regional areas   | 0   |    |    |    |
| 7.31 Downward pressure on prices/quality from increasing supply (oversupply)  | 33  | 6  | 12 | 15 |
| 7.32 inadequate / not enforced regulation of competing products   | 27  | 18 |    | 9  |
| 7.33 water restrictions reducing demand (urban)   | 9   | 9  |    |    |
| 7.34 need application-specific product standards  | 9   | 6  | 3  |    |
| 7.35 Product R&D not strategically targeted   | 3   | 3  |    |    |
| 7.36 Innadequate understanding of agricultural economics / risks  | 3   | 3  |    |    |
| 7.37 Regulatory definition of "waste" and "beneficial use" restricts transition to sustainability                         | 9   | 3  | 6  |    |
| 7.38 Other  | 18  | 3  | 9  | 6  |

| Production to quality standards <sup>4</sup>                         |                   |    |    |    |   |    |
|--|-------------------|----|----|----|---|----|
| Number of facilities producing to quality standards                  |                   | 32 | 10 | 9  | 5 | 8  |
| <b>8.1 Standards</b>   |                   |    |    |    |   |    |
| AS 4454 - Composts, soil conditioners, mulches                       |                   | 25 | 7  | 6  | 4 | 8  |
| AS 3743 - Potting mixes  |                   | 9  | 3  | 3  | 1 | 2  |
| AS 4419 - Landscaping soils  |                   | 9  | 4  | 2  | 2 | 1  |
| Organic product standard - Biological Farmers Association            |                   | 4  | 2  | 1  | 1 |    |
| Other - Biosolids guideline  |                   | 4  | 3  |    | 1 |    |
| Other - Soil Foodweb Institute                                       |                   | 1  | 1  |    |   |    |
| Other - NASAA  |                   | 4  | 1  | 1  | 1 | 1  |
| <b>8.2 Number of facilities realising commercial value/relevance</b> |                   |    |    |    |   |    |
| Improved process control   |                   | 18 | 5  | 7  | 2 | 4  |
| Improved staff management  |                   | 7  | 2  | 3  | 1 | 1  |
| Consistent product   |                   | 9  | 8  |    | 1 |    |
| Increased sale price   |                   | 5  | 1  | 3  | 1 |    |
| Access to particular markets   |                   | 18 | 6  | 5  | 5 | 2  |
| Other - Company image, marketing                                     |                   | 0  |    |    |   |    |
| Other - Increased costs  |                   | 1  | 1  |    |   |    |
| <b>8.3 Increased market price achieved due to standard</b>           |                   |    |    |    |   |    |
| AS 4454 - Composts, soil conditioners, mulches                       | Yes               | 6  | 1  | 1  | 2 | 2  |
|  | No                | 11 | 6  | 1  |   | 4  |
|  | <i>Increase %</i> | 35 | 15 | 10 |   | 10 |
| AS 3743 - Potting mixes  | Yes               | 3  | 1  | 1  | 1 |    |
|  | No                | 4  | 2  |    |   | 2  |
|  | <i>Increase %</i> | 45 | 15 | 30 |   |    |
| AS 4419 - Landscaping soils  | Yes               | 2  | 1  | 1  |   |    |
|  | No                | 4  | 3  |    |   | 1  |
|  | <i>Increase %</i> | 15 | 10 | 5  |   |    |
| Organic product standard   | Yes               | 1  |    | 1  |   |    |
|  | No                | 3  | 2  |    | 1 |    |
|  | <i>Increase %</i> | 0  |    |    |   |    |
| Other - Biosolids guideline  | Yes               | 1  | 1  |    |   |    |
|  | No                | 1  | 1  |    |   |    |
|  | <i>Increase %</i> | 20 | 20 |    |   |    |

Footnotes

- 1 Other types of facilities include: renderer of offal; direct land application; facilities of unknown license status; licensed on-site facility.
- 2 Recycled organics refers to a range of products manufactured from a variety of compostable organic materials including: garden organics; food organics; residual wood and timber; biosolids; agricultural organics; and other organic materials.
- 3 Note total may not equate to the sum of individual market segments as a small number of processors were not prepared to provide market breakdown.
- 4 Note a lower quality response was received on these questions. Where figures were provided respondents noted that these were largely guesstimate.
- 5 The green colour indicates most significant issues