

COMPOSTING PROGRAM CITY OF MEDICINE HAT

Profile by Rob Gardner
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Riley Klaiber knows his compost. No wonder! He makes hundreds of tonnes of it every year. As Supervisor of the City of Medicine Hat's landfill, he manages the yard waste program as well as the composting of biosolids (the solid part of treated sewage).

Both types of compost work the same way, but are kept strictly separate. The biosolid compost looks like other compost, and regular testing ensures no residual health concerns. A higher level of metals means it is labelled Class B, and cannot be used in yards or farms.

As for the actual composting process, both the biosolids and the yard waste (mainly grass clippings) contain an excess of nitrogen and water. To reach a balance, they are mixed with carbon-rich waste such as wood chips, or dead leaves from the autumn collection period. To create the chips, trees, pallets and construction waste, are stockpiled and then shredded periodically. The shredder includes a magnet to remove the nails and other ferrous bits.





Riley taking the temperature of a steaming windrow.

The composting process takes considerable work, with the windrows ideally being turned when the pile reaches 55 C, or about five times in 15 days. The shape of the blades on the machine move more material to the centre, creating a peaked pile, while breaking up some big pieces at the same time.

When the compost is finished, it is screened to remove larger pieces, which are put back into the new piles. The compost matures in a stockpile until it is needed.

Individuals can buy finished compost for \$28/tonne, or about \$15 for a truck load (self-load). Any compost remaining at the end of the year is sold to Landscape Depot which mixes it into several different soil blends.

This year, the Parks Department was a major customer, using 130 truckloads, or 900 tonnes, of compost to build the new disk golf course in Gilwell Park.

Inappropriate materials, including plastic bags and large pieces of wood, are a constant headache. They interfere with the overall process and need to be removed at the end. Please restrict your woody material to less than two inches in diameter.

The City Composting Program achieves excellent quality of compost for several reasons:

- large quantities of raw material enable optimal size piles to be used. i.e. 2 m tall) so the temperature reaches 60 C or 140 F;
- the site has enough space to allow the compost to fully age for a year; and
- large equipment allows frequent and thorough turning of the material.



The City's Green Bin yard waste collection program has diverted 67,000 kg of waste from the landfill this year alone. This program turns a potentially methane-generating waste into a valuable conditioner for gardens and parks.

As each type of waste is removed from the total waste stream, the remaining materials become easier to deal with. If you haven't been to the landfill for a few years, you will be impressed with the various diversion efforts. Electronic waste, vehicle tires, and metal are just some of the products that are separated for re-use.

The City of Medicine Hat has made substantial progress in moving many materials from waste to valuable product.

As in any field, improvements are possible. For example, the staff continue to seek more productive uses of the compost, particularly that made from biosolids. And food waste, especially from institutions, remains an untapped but labour-intensive



The operator checks the machine used to mix and pile the composting materials.

