

Composting Toilets

A great way to address
septic system concerns!



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Benefits of Composting Toilets

- Utilize less water than conventional toilets
- Allow for reduced septic system installation / replacement design flow

Basic Definitions

- Wastewater

Total water discharges within the household including (but not limited to): Bathroom sinks, bathtubs, toilets, kitchen sinks, and laundry wash-water.

- Blackwater

Liquid and solid human body waste and the carriage waters generated through toilet discharge

- Graywater

Wastewater drained from sinks, tubs, showers, dishwashers, clothes washers, and other non-toilet sources

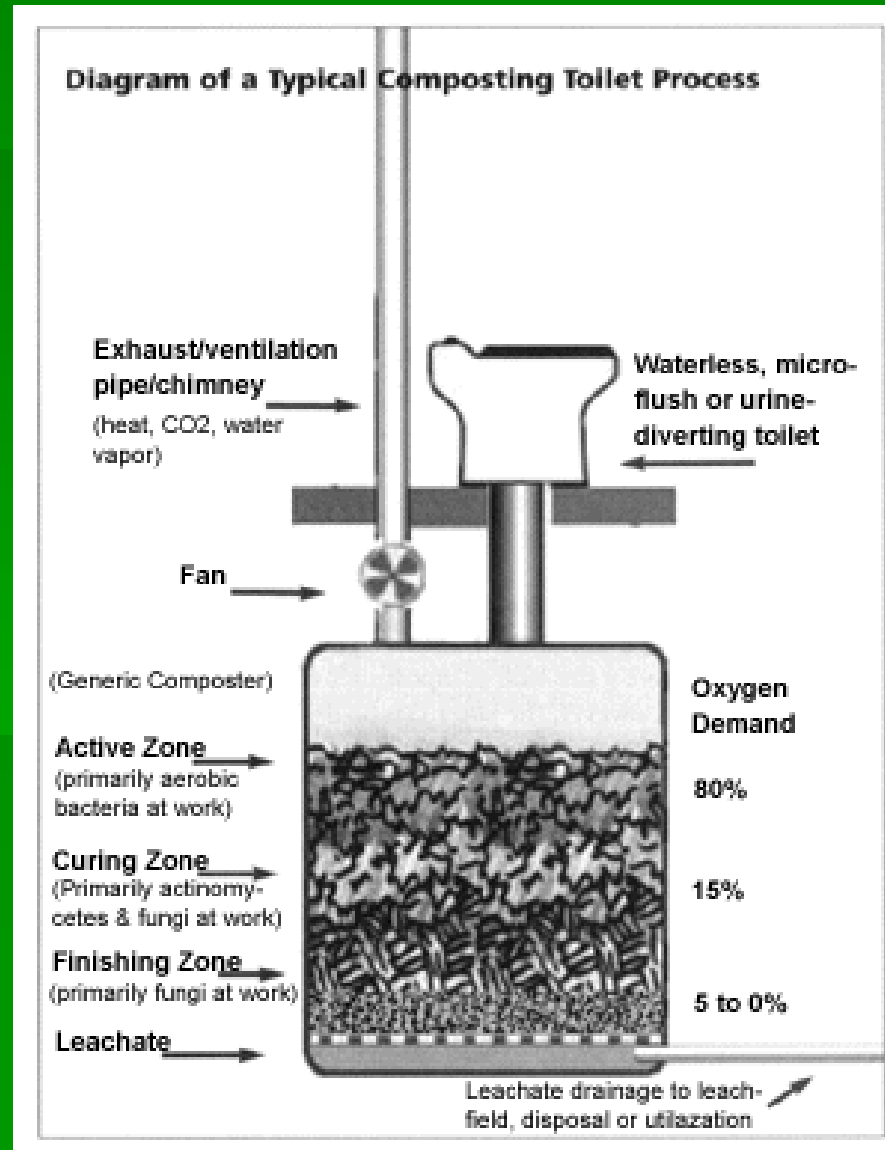
Composting

Biological decomposition of organic materials by microorganisms under controlled, aerobic, conditions to a relatively stable humus-like material called compost.

Optimal environmental conditions:

- Warm (75-100 °F)
- Moist (45-70% moisture content)
- Dark
- Aerated
- Proper balance of C:N

Anatomy of a Composting Toilet



Compost of Blackwater (Humanure) considerations

- Since pathogens (e.g. viruses, worms, amoebas, bacteria, and protozoa) can be carried in human wastes, composting toilets should either feature long retention times and/or high temperatures
- High temperatures in composting toilets, especially without supplemental heat, can be difficult to achieve
- Compost end-product must be buried or removed by a licensed septic waste hauler
- Graywater may also carry pathogens, requiring proper disposal

Compost Toilet

Any self-contained toilet from which no liquid or solid waste materials are regularly discharged and from which a humus-like end product is produced

Types:

- *Self-contained vs. Centralized (Remote)*
- *Single-chamber continuous vs. Multi-chamber batch*
- *Passive vs. Active*

Example: Waterless, Self-contained



Example: Waterless, Self-contained



Example: Waterless, Remote



Example: Low-water, Remote



Example: Low-water, Remote



Example: Vacuum-flush, Remote



Example: Clivus Multrum compost tank



Example: Envirolet (Sancor) compost tank



Example: SunMar compost tank



End Product = Humanure



RIDEM Rules for Onsite Wastewater Treatment Systems (OWTS)

Alternative toilets include composting toilets that comply with the requirements of the National Sanitation Foundation Standard 41 “Non-Liquid Saturated Treatment Systems” and incinerator toilets

RIDEM Rules for Onsite Wastewater Treatment Systems (OWTS)

“When an alternative toilet is utilized, a separate OWTS shall be provided for the treatment of any graywater and designed on sixty percent (60%) of the normal daily design flow as determined by Rule 21.”

Thank You. And please...



...reduce, reuse, and recycle!