

School & Institutional Composting Solution

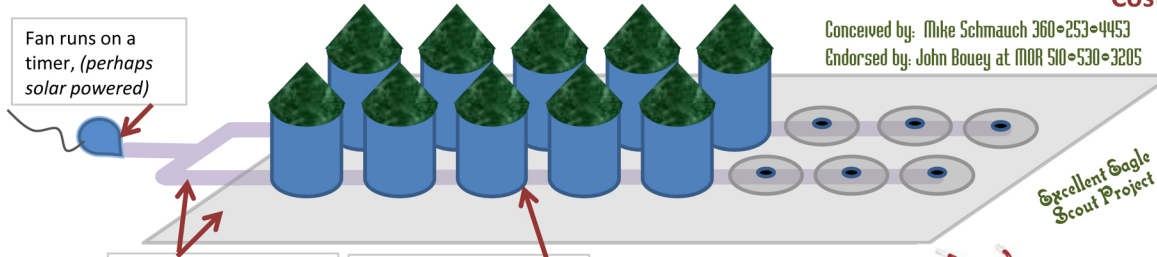
Cost estimate:

\$ 300	modified hand truck
\$ 200	20 drums @ \$10 ea (used)
\$ 500	concrete pad (volunteers)
\$ 200	pipe and fittings
\$ 300	fan & timer
\$ 900	20 covers @ \$45 ea.
\$ 250	Temperature probe
\$ 2,650	<i>(could be under \$2000)</i>

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Excellent Eagle Scout Project

Fan runs on a timer, (perhaps solar powered)



Cement pad with buried 3" pipe with a 1½" riser for each barrel with a 1½" threaded cap (removed when the barrel is over it). May use a partially filled bicycle inner tube as a seal for the bottom.

Plastic barrels with open tops and ¾" holes in the bottom covered with a cone shaped MOR* cover held in place with a bungee cord or "tie down" strap held by belt loops on MOR covers



Barrel hand truck allows barrel to easily lay on its side and the hand truck is modified with 4 wheels mounted on its side rails to allow the drum to be rotated for mixing as needed. Straps secure the drum while on the move vertically.



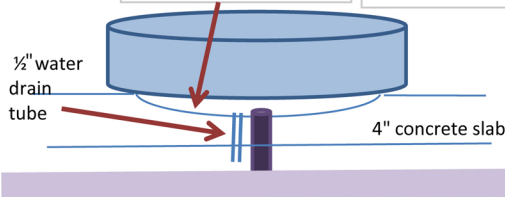
Barrel can be moved close to cafeteria to receive food waste and some "chips" (from a nearby wheel barrel) layered between each day's waste. Barrel might hold 1-3 day's food waste. If odors are a problem during the 3 days, spray Ecosorb "SprayGel" on the top each day and cover.

Operating Assumptions:

Assume it takes 3 days to fill a drum with food waste plus the bulking agent done near the cafeteria. The drum is then wheeled with the hand truck to the composting slab where it is mixed by tilting the drum on its side and rotating it after putting the cone shaped MOR* cover on the drum and securing it with an adjustable "tie-down" strap around the top lip of the drum (placed in the belt loops of the cover).

Next, take off the "air cap" on the slab and move the barrel to sit directly over it. Make sure drum is properly labeled with start date and number.

Next, take daily temperature measurements in each active drum through the small holes drilled in the side of the drum (covered with corks or use a bulkhead assembly). Let "cook" for 25 to 30 days and then turn to mix up compost using the "modified drum hand truck" and re-set the drum on the pad for another 25 to 30 days. After 60+ days, empty the drum and start over with another batch.



Concept Advantages— 1) Each drum completes its own cycle and variables can be introduced and measured like less air, adding a "probiotic" solution, turning more or less often, etc. 2) Easy to move and mix the waste from the source to the compost area. 3) Interim mixing is not too difficult. 4) Measurements are more uniform and therefore more comparable. 5) "Ready" compost is easily identified and able to be used or sold as desired.

***MOR Covers**— these ePTFE micropoor covers let air out, but the pores are not large enough to let odor molecules out and will not let water in, thereby providing a controlled environment ideal for the microbial activity necessary for thorough composting.