How to Build a 3-Bin Wood Pallet Compost System

By Shannan Webb, VCGN Compost Intern, Summer 2014

A 3-bin compost system is one of the most efficient ways to create compost at any backyard, school or garden site. The three containers organize your organic wastes into 1) new, incoming materials, 2) the turned, working batch and 3) the finishing batch. Pallets are sturdy and able to contain a good amount of compost while gaps between the boards bring air to the pile. The 3 cubic feet bins provide enough area for your pile to heat up and decompose quickly while requiring minimal turning. By utilizing reusable pallets that can be found for free at most hardware stores and construction sites, this method is a cheap and simple way to build a 3-bin composting system.

What you’ll need

- Shovel
- Rake
- Staple gun
- Pliers
- Measuring tape
- 7 wooden pallets of similar size, about 4’ by 3 ½’
- 20’ malleable steel wire
- 3’ by 30’ garden netting or hardware cloth
Steps

1. Prepare your site. Measure out a 10’ by 4’ area for the bins, using a shovel and rake to make the land level.

2. Line each of the wood pallets along the flat side with the garden netting, stapling the netting securely to the pallet.

3. Dig a 3 to 5” deep trench that is the length of your pallet.

4. Stand the first pallet with the longest side down into the trench to make the first wall of the bin. The wire netting should be facing where the inside of the bin will be.

5. Fill extra space in the trench with soil to stabilize the pallet.

6. Dig a second trench perpendicularly to the first pallet, two corners should be meeting.

7. Stand a second pallet with the longest side down into the trench perpendicular to the first pallet. This makes the back wall of the first bin.

8. Dig a third trench, 5” deep, the length of the pallet and perpendicular to the 2nd pallet.

9. Place a third pallet into the trench, meeting the corner of the 2nd pallet and filling in with soil as needed.

10. Wrap wire around the top and bottom of the two vertical boards of each pallet where they meet in the two corners. There should be a total of 4 wire ties.

11. Tightly twist the wire with pliers and cut off the excess.

12. Bin #1 is done! Now repeat steps 6 through 11 with the remaining four pallets and then your 3-bin system is complete.

Additional Sources

“Build Your Own Backyard Compost Bin” by the Chittenden Solid Waste District

“3-Bin Compost System using Pallets” by Dan Kostek

“The Rodale Book of Composting: Easy Methods for Every gardener” by Deborah L. Martin and Grace Gershuny
Moving a pile of compost to make room for the 3-bins

Malleable wire is being tied around vertical, connecting boards of the pallets to keep bin together

The 3-bin compost system is complete
MANAGING YOUR BINS

Here is an example of instruction sheets for each bin:

Adding Materials (Bin 1)

1. Start with 6 inches of brown leaves, straw or wood mulch.
2. Add a layer of weeds, food scraps or green material.
3. Cover green layer with brown layer to mask the odors of food scraps and to increase the heat of the pile. Brown materials should always be on top!
4. After every layer, add water. Compost should feel moist, like a damp sponge.
5. Keep layering green and brown until Bin 1 is full.
6. Let sit for two weeks. When reduced in size by 1/2, transfer to Bin 2

Monitoring (Bin 2)

7. Turn pile by shoveling material from Bin 1 to Bin 2. This mixes the materials and adds oxygen for microbes.
8. Add water when you turn the pile.
9. If pile is wet and soggy, turn and add more browns.
10. If pile is smelly, turn and add more browns.
11. If pile isn’t heating up, add more greens.
12. If heating too fast, add more browns.

Curing (Bin 3)

13. When the original materials are no longer distinguishable shovel the pile from Bin 2 to Bin 3.
14. Keep adding water if the pile looks dry and stir the pile every once in a while.
15. When the pile has turned a rich, dark brown, is cool to the touch and smells like earthy goodness, then your compost is done!
16. For even better compost, wait a month or more for compost mature further.