

Building a Wood-and-Wire 3- Section Turning Compost Bin

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Class 26

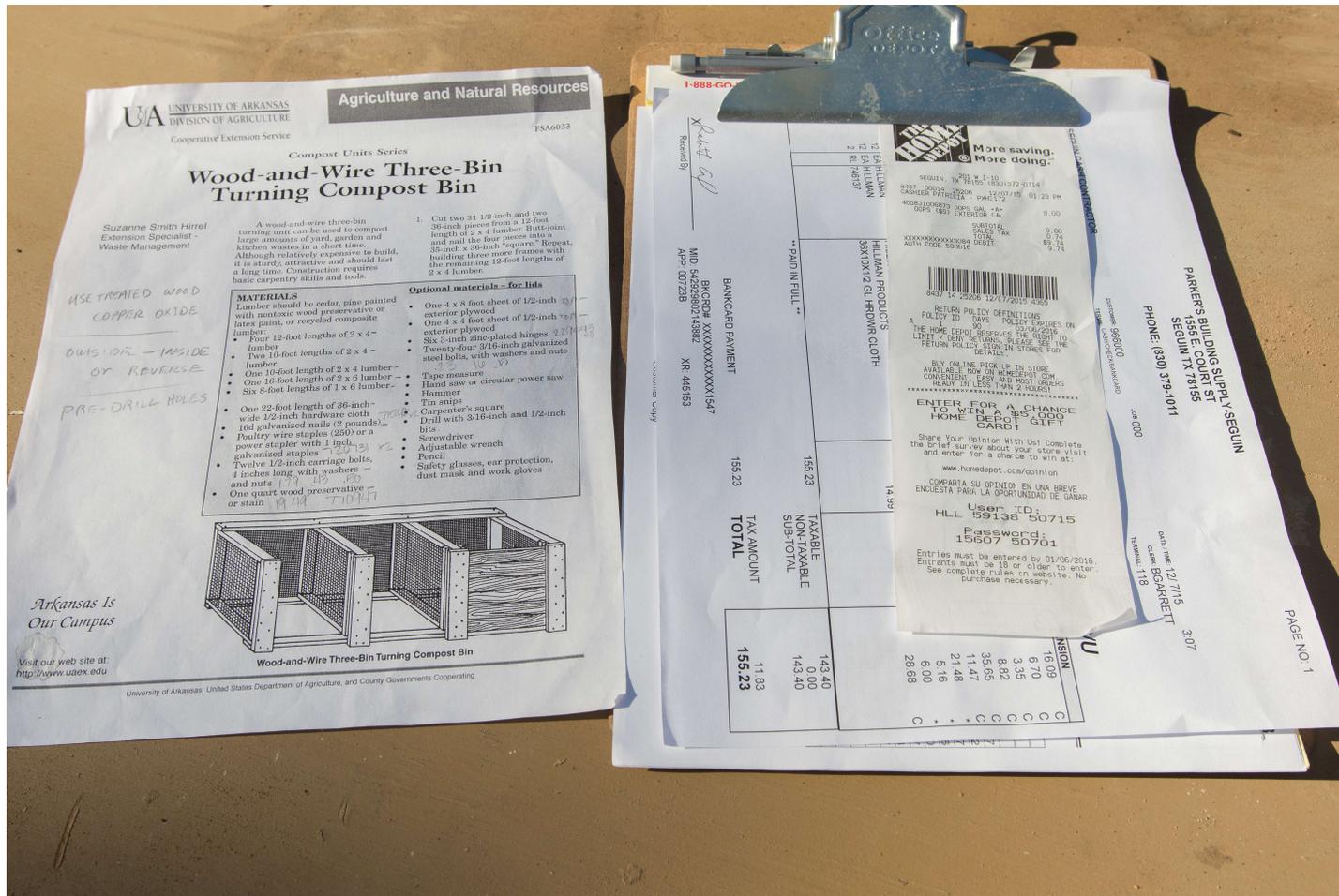
Background

- This plan is based on one created by Susan Smith Hirrel of the University of Arkansas Division of Agriculture (<http://www.uaex.edu>)
- Making the decision to build a compost bin is complex. It would be difficult to list here all components of such a decision.

Background

- One critical part of the decision to build is assessing costs. It is recommended that at least two bids from local lumberyards be compared.
- Planning is Key: Think about who will manage the composting process, where the bin will be located, who has access, etc.
- Location of the build: Schedule the build in the most logical place available based on knowledge of tools needed, materials and skills of builders.

Review steps before beginning



Assemble materials in advance



Materials

- Four 12-foot lengths of 2x4" lumber
- Two 10-foot lengths of 2x4" lumber
- One 10-foot length of 2x4" lumber
- One 16-foot length of 2x6" lumber[?]
- Six 8-foot lengths of 1x6" lumber
- One 22-foot length of 36-inch wide 1/2" hardware cloth
- Two pounds of 16d galvanized nails
- Poultry wire staples (250) or a power stapler with 1" galvanized staples

Materials

- Twelve 1/2 “ carriage bolts, 4” long, w/washers & nuts
- At least one quart of stain, wood preservative or paint
- Suggestion: Shop local hardware stores or big box stores’ “Ooops” sections for best buys

Assemble all necessary tools



Section one steps

Cut two 31 ½" and two 36" pieces from a 12-foot 2"x4"



Butt-joint & nail the pieces

Into a 35"x36" divider



Repeat the process three times



Adding the hardware cloth

- Cut four 37” lengths of hardware cloth (wire mesh)
- Fold back the cut edges of the wire one inch (wear gloves)
- Ensure that frame corners are square
- Staple screen in place every four inches around edges
- These wood-and-wire frames serve as bin dividers

Measure the wire (hardware cloth)



Mark, then cut the wire



Staple wire to bin divider frames

Every four inches



Repeat the process three times



Assembling the dividers

Set dividers on 36" end, **double check instructions**



Continuing the assembly

Cut 9-foot lengths of 2"x 4" lumber, **measure & mark center of inside dividers**



Continuing the assembly

Align marks, then drill $\frac{1}{2}$ " hole 1-inch from edge (previously marked)



Install carriage bolts

Do not tighten completely



Repeat the process on opposite side

Ensure the bin is square, **tighten securely**



Continuing the process

Fasten a 9-foot length of hardware cloth to backside of bin, **staple every 4"**



For the front of the bin

Cut four 36" long boards from 2"x6" lumber



More cuts for the front

Rip-cut two 4 $\frac{3}{4}$ " wide strips



Attach 2"x6" front runners

Nail two 4 3/4" runners to left and right dividers ensuring they are flush at top and outside of dividers. Center two remaining runners flush at top of inside dividers; nail in place.



More for the front

- **Cut remaining** 4-foot length of 2"x 6" lumber into 34" lengths
- **Rip-cut these pieces** into four equal strips
- **Trim two strips** from earlier step to 34" lengths
- **Nail each 34" strip** to front of **inside dividers** parallel to 1" boards attached to front dividers
- See following slide

Nail 34" strips to inside dividers 1" apart

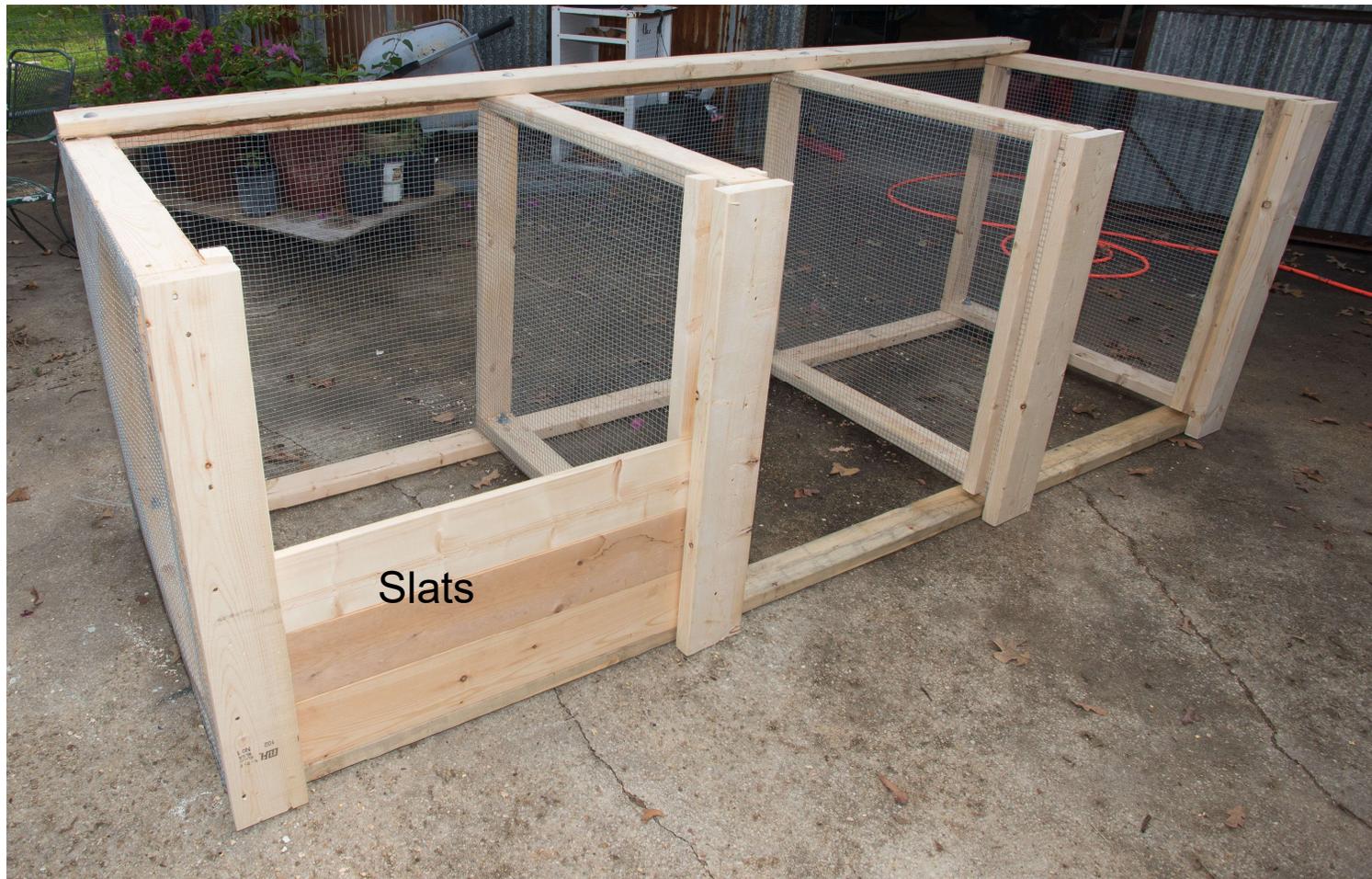
Forming vertical slots to receive and hold slats



More final steps

- **Cut six 8-foot lengths** of 1"x 6" lumber into 15 slats, 31 1/4" long
- **Insert slats** between dividers into the vertical slots

Final steps for front of bin



More for front of the bin

Cut 15 31 ¼" pieces from the 1"x 6" lumber



Testing slats

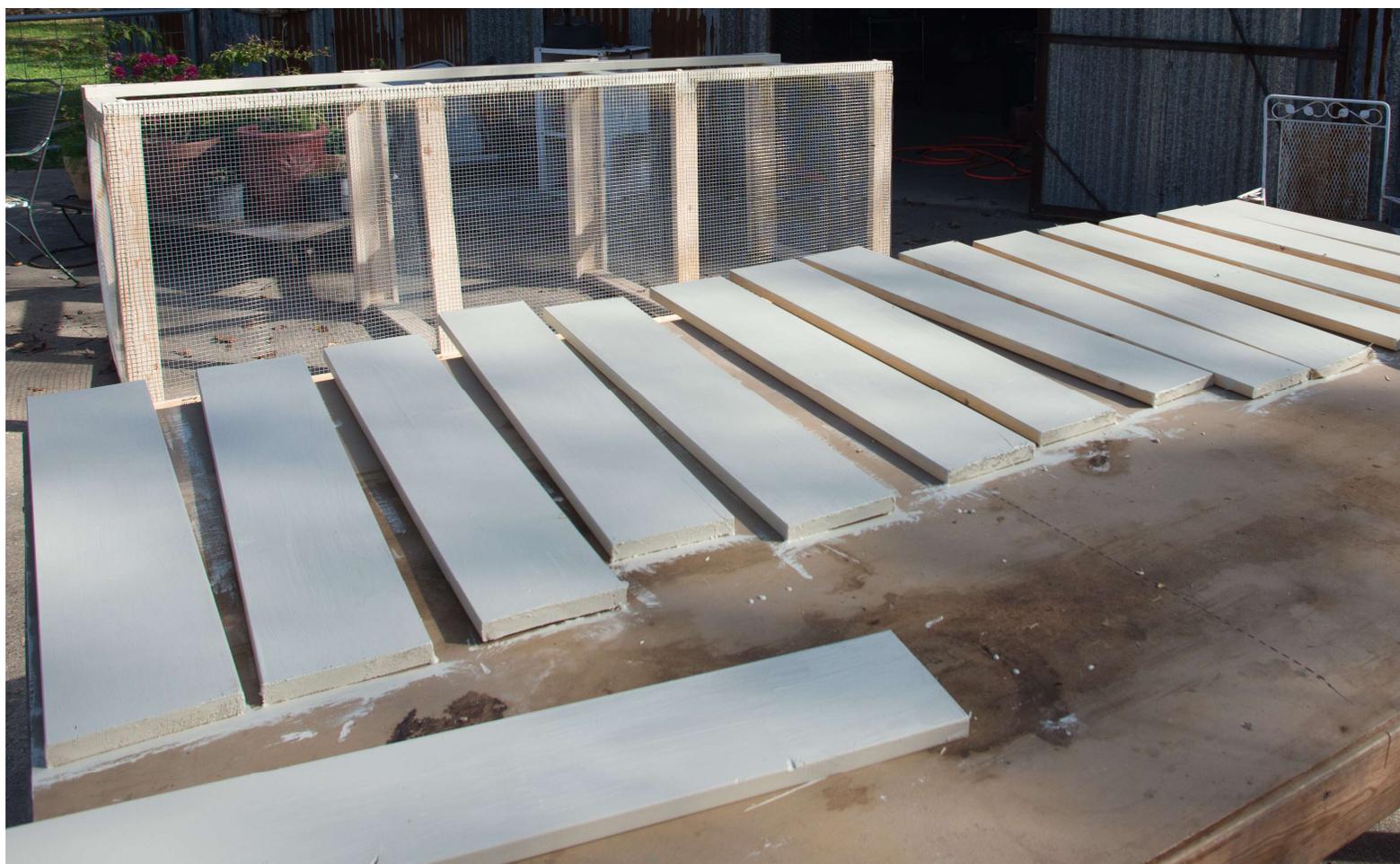
Slats should fit snugly, not rigidly



Paint the finished project



Add a 2nd coat if necessary



Deliver finished project to site



Adding to the unit onsite

- Signage is **important**
- Make it official, not offensive
- Make it obvious, not invasive as **materials must be moved**, bins added to and pile temperatures & moisture **levels must be taken regularly**
- Post signage, observe responses, **adjust as needed**

Compost Bin Management

- Decide in advance, who will **manage the bin's progress**
- **Brief everyone** involved as much as possible and **OFTEN**
- **Check** pile temperature & moisture **levels at least weekly**
 - More often if possible
 - **Log results** to know when to mix or move pile

Add to pile in layers

- **Goal** is a 30:1 C:N (carbon, nitrogen) ratio for pile
- Bottom of **pile must be accessible** to microorganisms
- Begin with a **carbon (brown) layer**
- Follow with a **nitrogen (green) layer**
- Add moisture, compost starter, soil or compost between brown and green layers

Begin with a brown layer

Although the books would rot, return them to your shelves



Add a green layer

Between layers, add a thin layer of soil, compost starter or compost



Add another layer of brown

And a thin layer of soil, compost starter or compost



Add to each layer

Spread small layers of compost starter, soil or compost to layers



Add signage to the compost bin

Text should be officious, not offensive



Keep signage manageable

Signs should be moveable to enable pile monitoring, turning and moving



Managing the pile

Temperature is king, must be monitored and logged regularly



Temperature is king

Turn pile as needed to reach 130-140 degrees Fahrenheit



Don't forget moisture levels

Using a gauge helps decide when to stir the pile...this area is dry



Moisture levels vary

Check different areas of the pile often...this area is wet



References

There are many, many books about composting



Compost Well

- Remember, it takes nature 200-500 years to produce 1" of topsoil
- Here's to doing our part to help nature
- Es Finis