

The Garden Ark



mobile chicken coop construction plan

METRIC VERSION

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**SAMPLE PAGES
NOT FOR USE**

thank you!

Thank you for buying The Garden Ark plan and supporting the effort. I know it will save you a lot of time and headache. More importantly, I hope the end result is something that you love and are proud of.



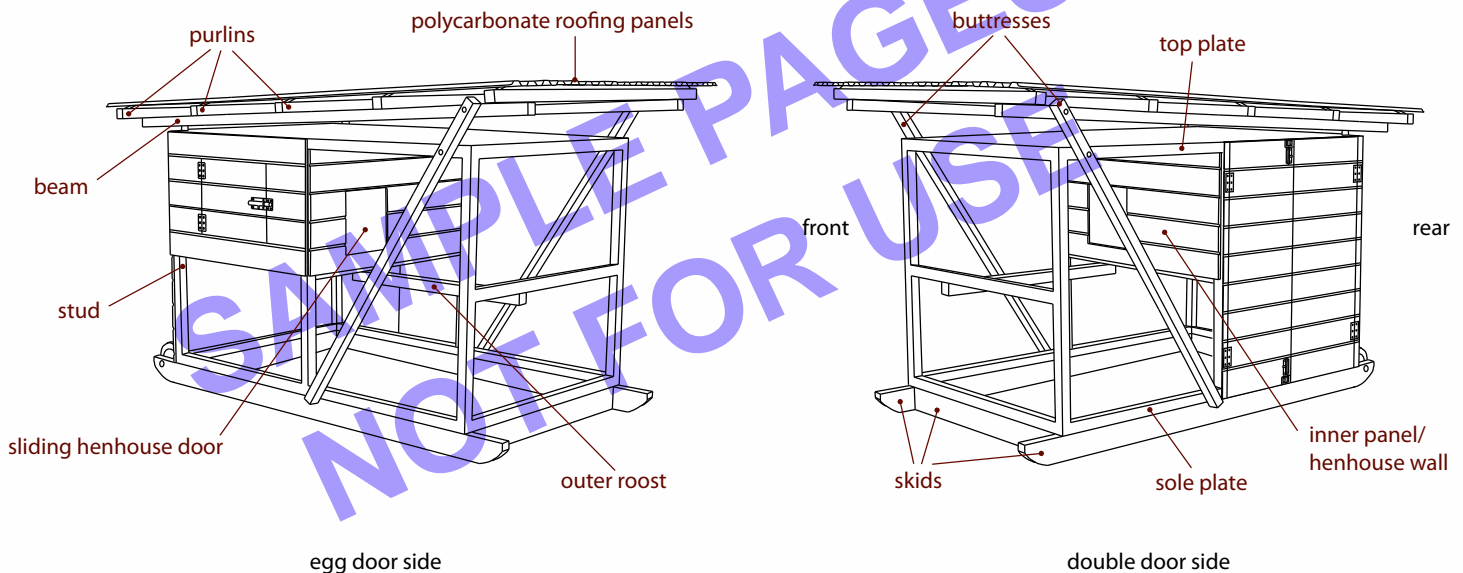
about the metric version

All measurements are in millimeters (mm) unless otherwise noted. In most cases, I have converted directly from imperial units. Lumber and hardware dimensions vary around the world, so please measure what you have and adjust from the plan as needed.

overview and precautions

THE GARDEN ARK makes for a comfortable, attractive home for up to 3-4 hens. The polycarbonate (translucent) roof adds a lot both to the form and the function of the coop, providing light, ventilation, security, and cover. It is set atop what is basically a box within a box. The outer box defines the enclosed grazing yard; the inner box, the henhouse. The frame is made of two-by-two (38 x 38 mm) lumber (timber) and sits atop two-by-four (90 x 38 mm) wooden skids. The skids make it easier to move the ark around, while elevating the structure away from the moisture of the ground.

The diagram below helps define some of the terms you'll see in the plan:



The frame is wrapped with a mix of wood siding and 13 x 13 mm hardware cloth on all sides and at the top. You have the option of leaving the bottom open to the ground or attaching wire mesh for additional protection. There is one roost in the yard and one inside the henhouse. The hens access the henhouse by hopping onto the outer roost and walking through the opening. There is a sliding door so you can close the opening to secure your birds in the henhouse. The plan calls for one nesting box, yet there is room for an additional one if you feel you need it. Three or four hens should be able to share one box without problems.

For egg collection, there is a latched egg door to the outside that opens into the nesting box. On the opposite side there is a tall, latched double door that gives easy access both to the henhouse (for care and cleaning) and the area beneath it (for feeding, watering, and letting the hens in and out).

Those are the basics of The Garden Ark. It's a fun design, and you'll no doubt enjoy thinking of ways to add your own touches and style to it. Now some important notes and precautions. . .

prep and cut

Steps in this section

- ① Sanding lumber (recommended)
- ② Cutting lumber for frame
- ③ Cutting siding/doors
- ④ Cutting plywood
- ⑤ Cutting roofing panels and closure strips
- ⑥ Treating/sealing

① Sanding lumber (recommended)

If you have a power sander, this step is a big time saver. Whether you'll be treating your wood with a non-toxic preservative, staining it, or priming/painting it, sanding first will remove the mill glaze from dimensional lumber and slightly raise the grain so those products will better penetrate and adhere.



Lay out your lumber on sawhorses or other flat surface. Remove any staples or tags. Hold or clamp the pieces

together so you get a solid surface for sanding. Sand, then flip each piece to the next side and repeat until all four sides of your lumber pieces have been sanded. Brush off dust with a rag, then stack your lumber aside.

② Cutting lumber for frame

NOTE: You can do steps 2 and 3 in either order. Step 3 is more demanding, so if you want to get warmed up for it, do step 2 first. If you want to get it out of the way, do step 3 first.

Using the cut list on the following pages, measure, mark, and cut your lumber into the pieces indicated. A few tips:

- ▶ Notice that the first board on the list is a one-by-two, the next batch are two-by-twos, and the last 3 are two-by-fours. Review the sidebar on page 6 if any of your lumber is non-standard.
- ▶ Before each cut, label the length and purpose of the piece (in pencil) for ease of finding it later. Any marks you make may fade when you treat/seal the wood, but that's okay. It should be clear which pieces are which just by their relative size. If you're ever unsure, just re-measure a piece and refer back to the cut list to identify it.
- ▶ All angled cuts are exactly 45 degrees. A combination square makes these easy to mark (see picture).

Tips continue after cut list. . .



prep and cut

Making straight, long cuts with a circular saw

Marking a line and cutting on the line works fine for simple crosscuts. But longer cuts through plywood are easier to keep straight if you have a guide for your circular saw. Here's an easy way to make one:

- ▶ Measure the width of the base plate on your saw. Cut a piece of plywood 150 mm wider than that width and at least 940 mm long (this length should cover the cuts in this plan).
- ▶ Cut a one-by-six (152 x 19 mm) board to the same length (again, at least 940 mm). Place it atop the plywood, flush to the left side, and attach it with a few screws (top picture).
- ▶ Place the guide on sawhorses. With the saw plate flush against the one-by-six. Run the saw through the plywood trimming off the right edge (second picture).
- ▶ You'll be left with a pretty straight guiding edge right where the blade cut the plywood. For future cuts, position this edge at your cut mark and clamp the entire guide to the piece you're cutting (third picture).
- ▶ Remember to add in the depth of the guide when setting the depth of your saw blade for cuts. And don't stop moving your saw forward when the front of it comes to the edge. The full depth of the cut only happens at the mid point of the circular blade. So guide it forward until that point reaches the edge of your board.
- ▶ For safety, be sure to not overreach. Keep both feet planted on the ground. And keep the power cord out of the way of your cut. The circular saw is a very handy tool, but if you are not fully confident in using it, please ask for guidance or search online for more detailed tutorials.



prep and cut

⑥ Treating/sealing

- ▶ For the lumber, lay down a drop cloth and arrange your lumber pieces on a spacious work surface. Apply your treatment/sealer to all sides following the manufacturer's instructions. Focus on the cut ends, which will likely soak up more than the smoother sides. After the final coat, set the wood aside to cure or dry.
- ▶ For the siding/doors, follow the manufacturer's instructions for the exterior stain or paint of your choice. Apply liberally to rough-sawn surfaces, more conservatively to smooth surfaces. Focus on the cut ends and edges. And don't forget all the little pieces of the double door assembly. After the final coat dries to the touch, set it all aside.



Products for treating and sealing wood

Since you want to avoid using treated wood around animals involved in food production, you need to find a non-toxic alternative to preserve the wood of your coop for a long life in the elements. Whether you choose a naturally rot-resistant wood like cedar or a less expensive softwood like fir or pine, you want to prepare it to last. There are several good stains, paints, and sealers out there. I use products by a company called Timber Pro UV (www.timberprocoatings.com). I apply their Internal Wood Stabilizer to the frame lumber, including the skids and the roof members. It is a non-toxic alternative for waterproofing wood that increases the density and hardness of wood from the inside out. It brushes on like water and requires just one application. For wood siding, I use Timber Pro UV Natural Oil Wood Finish, a nice renewable-oil based, yet water borne, formula. Timber Pro's products are environmentally safe and low VOC. Whether you use these or something else, please consider the health of your chickens, garden, and family when choosing. ✍



assemble the coop

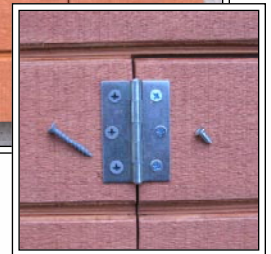
4 Assembling doors

EGG DOOR:

a. On the back of the egg door panel, position the egg door doorstops in a rectangle around the door opening (picture, top right). The stops should overlap the door opening by 6-13 mm. Drill 2-3 small pilot holes near the edge farther from the opening and attach the doorstops to the panel with 25 mm screws. Flip the panel to see if any of the screws stick out the other side. If they do, back them out a bit or move them to another location.



b. With the panel face up, center the egg door piece inside the opening (picture, middle right). The face of door should be level with the face of the panel. Lay out the hinges and drive two 25 mm screws into the left side of the upper hinge (no pilot hole needed). Make sure everything is straight, then drive three 13 mm screws to secure the right side of the hinge to the door (no pilot hole needed). Repeat this step for the lower hinge.



c. Attach the barrel bolt catch to the panel using 13 mm screws. Extend the bolt to help position the barrel bolt mechanism, then attach the mechanism to the door with 13 mm screws.

d. Position the egg door assembly on the frame so that the top and left edges are flush with the edges of the frame. Attach with 30 mm screws. Start along the top about 50 mm in from the left and use a total of 5 screws (see diagram). Make sure the panel is still flush to the sides and attach there, using 2 or 3 screws on each side. Finally, attach at the bottom with 2 or 3 screws. The egg door side is done. Set it aside.

