WS-046 Ventilated loose-produce inspection crate

Separate a small quantity of dry sound produce in removable appropriate liners for frequent inspection.

Controlling dimensions: US inches and feet. Metric equivalents are references. Original editorial design; no physical build, animal trial or load certification is claimed.

Before marking and cutting

US inches; feet where appropriate. Metric values are rounded references. Written inch values control.

3/4 in means measured 0.750 in actual thickness wherever used. Recalculate mating lengths for other sheet thicknesses; do not substitute nominal stock blindly.

Use limits

Indoor light-duty organizer only; not a seat, step, lifting crate or structural shelf.

No certified load or food shelf-life claim. For this open inspection crate, use removable breathable liners suitable for direct contact with the chosen whole, sound produce; keep produce from touching plywood and leave vents open. Follow produce-specific temperature, humidity and storage guidance. This is not sealed food storage.

Materials and finished cuts

Part	Qty	Size to cut	Material and detail
A Floor	1	16 × 12 × 3/4 in 406.4 × 304.8 × 19.05 mm	Sanded birch plywood with sound, void-free receiving edges. Measured actual thickness 3/4 in.
B End panels	2	10 1/2 × 5 × 3/4 in 266.7 × 127 × 19.05 mm	Sanded birch plywood with sound, void-free receiving edges. Measured actual thickness 3/4 in.
C Front and back panels	2	16 × 5 × 3/4 in 406.4 × 127 × 19.05 mm	Sanded birch plywood with sound, void-free receiving edges. Measured actual thickness 3/4 in.

Hardware and consumables

14 × #8 × 1 1/4 in wood screws. 10 floor and 4 corner screws; 14 total, with no divider in this project. Suitable for the actual plywood. No glue required.

Tools

Rule with fractional inches; Pencil or appropriate material marker; Reliable square; Saw suited to the specified stock; Clamps; Abrasive and dust-removal brush; Drill with the specified bit and depth stop where needed; Driver matching selected fasteners

Primary context and design record

Context references; not design endorsements or certifications.

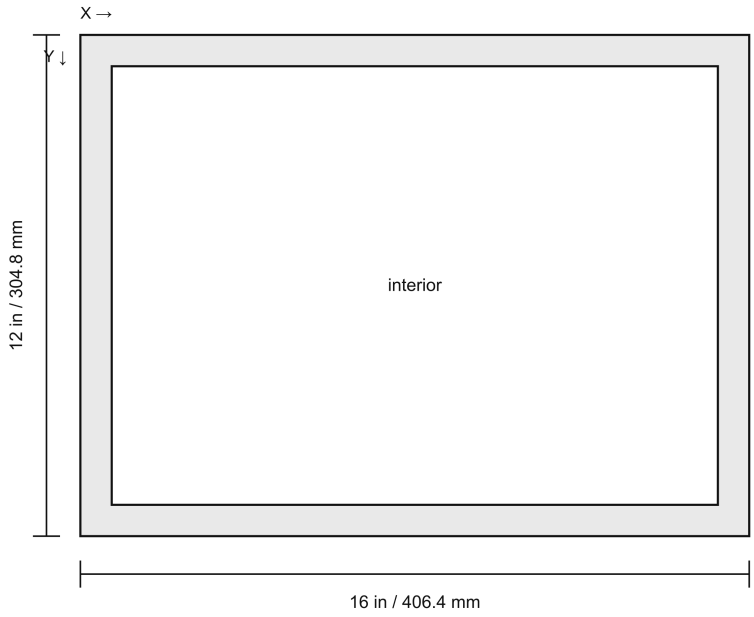
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WS-S04 · Harvest and Storage of Vegetables and Fruits · Utah State University Extension

Assembly and first checks

WS-046 Ventilated loose-produce inspection crate

PLAN / reference origin at front-left; not to scale. Inch values control.



Part letters identify the cut-list pieces. Dashed outline = underside part.
Coordinates in the method use the same X/Y reference.
Do not drill from the graphic: transfer the written center coordinates.
Original editorial design; no physical construction trial or certified load rating.

01 Define the work. Use only as a small tabletop inspection organizer. Select food-appropriate removable liners and a storage environment suited to the produce; the crate establishes no shelf life. Mark an outside footprint of 16 × 12 in; the finished rim stands 5 3/4 in above its underside.

02 Check sheet thickness at several edges. This cut list uses 3/4 in / 19.0 mm actual plywood. The two B pieces fit between the C pieces; their length is 12 minus twice 3/4 = 10 1/2 in.

03 Cut A to 16 × 12 in, two B pieces to 10 1/2 × 5 in and two C pieces to 16 × 5 in. Cut on the waste side of each mark and label the inside faces.

04 Before fastening the side panels, mark three 1 in-diameter ventilation holes on each C panel at local X = 4,8,12 in, Z = 2 1/2 in. Drill over backing, clamp and ease each hole.

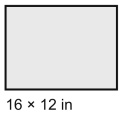
05 Mark two 1 in holes on each B panel at local length = 3 and 7 1/2 in, height 2 1/2 in. Drill before assembly; these holes are not lifting handles.

06 Dry-fit A on a flat bench. Stand C on its front and back edges, then B between them at each end. The outside faces finish flush with A. Clamp the rectangle and compare its diagonals before fastening.

Complete the assembly

WS-046 Component dimensions

Orthographic component reference. Quantities shown; not a sheet nesting plan or full-size template.



16 × 12 in

A Floor QTY 1

16 in / 406.4 mm × 12 in / 304.8 mm

thickness 3/4 in / 19.0 mm



10 1/2 × 5 in

B End panels QTY 2

10 1/2 in / 266.7 mm × 5 in / 127.0 mm

thickness 3/4 in / 19.0 mm



16 × 5 in

C Front and back panels QTY 2

16 in / 406.4 mm × 5 in / 127.0 mm

thickness 3/4 in / 19.0 mm

Measured actual stock controls. Read the written assembly sequence before cutting or fastening.

07 Mark floor screw centerlines 3/8 in in from each outside edge. On each C line use X = 1 1/2, 8, and 14 1/2 in; on each B line use Y = 1 1/2 and 10 1/2 in. Avoid overlapping corner holes.

08 Select corrosion-resistant #8 × 1 1/4 in countersunk wood screws suitable for plywood. Prove clearance-hole, edge-pilot and countersink settings on an offcut; use a depth stop. Clamp each upright while drilling rather than pulling it upright with a screw.

09 Drive ten screws from underneath A into the centered upright edges at the marked locations. Work in opposed pairs and keep heads flush. Stop and replace a split or delaminated part; do not cover it with a patch.

10 At each corner, drill through C into the end of B at 2 1/2 in above A. Fit one screw per corner, positioned 3/8 in from the side edge. These four screws hold the light organizer square; they do not establish a load rating.

11 Ease accessible corners and remove dust. Place the empty unit on its actual level surface; check that all four corners bear and that no fastener point or burr can contact hands or stored articles.

12 After assembly place suitable removable liners inside without blocking all holes. Inspect produce individually and remove damaged items promptly; empty before moving the crate.

Acceptance and intermediate checks

Outside footprint 16 × 12 in; overall height 5 3/4 in.

Clear interior 14 1/2 × 10 1/2 in; no divider is fitted.

Opposing floor diagonals differ by no more than 1/8 in in this workshop example.

All heads flush; no split receiving edges, projecting tips, loose parts or rocking.

All ten vent holes are smooth and open; the empty crate is moved only with support underneath.

Cleaning and maintenance

Empty and brush or wipe clean as appropriate for the material.

Dry fully after damp wiping; inspect joints and the support surface before reloading.

Replace swollen plywood, cracked parts or loose fasteners.