GA-004 Seed-envelope air-drying rack

Hold open paper seed envelopes upright and separated during short-term room-air drying.

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

Measure the stated stock sections before cutting. Use the cut-list geometry, not scale measurements from the drawing.

US inch dimensions control; millimeter values are rounded conversions. Ordinary cut target ±1/16 in (1.6 mm); fit commercial accessories before boring attachment holes.

Use limits

Original bounded garden component, not an occupied structure.

No human standing, sitting, climbing, lifting or fall protection use. No stated safe working load.

Geometry and fastener quantities are editorially checked; no prototype build, wind test or crop trial is claimed.

Materials and finished cuts

Part	Qty	Size to cut	Material and detail
P01 Base	1	20 × 8 × 1/2 in 508 × 203.2 × 12.7 mm	measured 1/2 in plywood exterior-bond plywood for protected non-food-contact fixtures; substitute thickness only by recalculating joints
P02 Feet	2	8 × 1 1/2 × 3/4 in 203.2 × 38.1 × 19.05 mm	1 × 2 in board sound untreated cedar or other durable untreated wood; no unknown salvage
P03 Divider rails	2	20 × 1 1/2 × 3/4 in 508 × 38.1 × 19.05 mm	1 × 2 in board sound untreated cedar or other durable untreated wood; no unknown salvage
P04 Dividers	5	4 1/2 × 4 × 1/2 in 114.3 × 101.6 × 12.7 mm	measured 1/2 in plywood exterior-bond plywood for protected non-food-contact fixtures; substitute thickness only by recalculating joints

Hardware and consumables

8 #8 × 1 in screws for feet

12 #8 × 1-1/4 in screws for rails

10 #6 × 1 in screws through base into dividers and 10 #6 × 1-1/4 in screws through rails into divider ends; add glue to divider feet

Wood glue suitable for interior joinery; no seed-contact preservative

Tools

Tape measure and steel rule; Pencil, square and clamps; Saw suited to the stated stock; eye and hearing protection; Drill/driver, countersink and bits matched to fasteners; Sandpaper and edge file; gloves when handling cut mesh

Primary context and design record

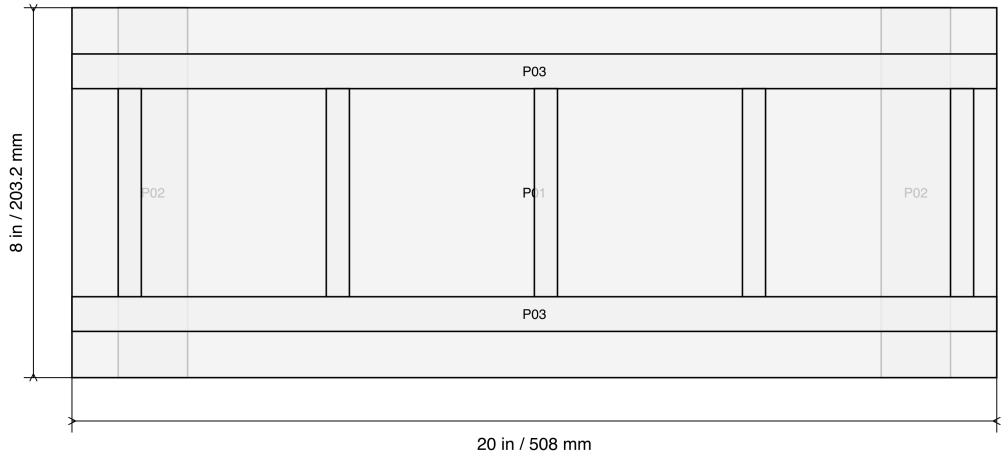
Context references; not design endorsements or certifications.

E02 · Seed and Seedling Biology · Penn State Extension · https://extension.psu.edu/seed-and-seedling-biology

Assembly and first checks

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PLAN — looking down; rear at top; controlling dimensions in inches



Part IDs refer to the finished cut list. Shapes are not load-rated. Read assembly before cutting.
Notches, holes, fittings and operating angles: see numbered steps and geometric annotations.
Original editorial draft • B/W vector • not physically built or tested • no implied Extension endorsement

01 Plan the seed-envelope air-drying rack for this result: Hold open paper seed envelopes upright and separated during short-term room-air drying. Confirm the design reference before cutting: Four working bays each 4 in wide between 1/2 in dividers. In the drawings x runs left to right, y runs front to rear and z runs upward.

02 Verify the required stock before laying out these parts: 1 × 2 in board: actual 0.75 × 1.5 in (19.05 × 38.1 mm); measured 1/2 in plywood: measured thickness 0.5 in. Reject split or twisted wood and unknown salvage; thinner stock requires recalculating the joints, not simply using the listed lengths.

03 Cut and label the finished parts: 1 Base 20 × 8 × 0.5 in (508 × 203.2 × 12.7 mm), mark P01; 2 Feet 8 × 1.5 × 0.75 in (203.2 × 38.1 × 19.05 mm), mark P02; 2 Divider rails 20 × 1.5 × 0.75 in (508 × 38.1 × 19.05 mm), mark P03; 5 Dividers 4.5 × 4 × 0.5 in (114.3 × 101.6 × 12.7 mm), mark P04. Keep saw kerf outside each finished line. Rip only where the finished width is narrower than the actual stock; use a suitable guide and target ±1/16 in (1.6 mm) for ordinary cuts. Dowel triples mean length × diameter × diameter, not square dowel stock.

04 Mark the feet under the base at x = 1 and 17-1/2 in. Attach each with four 1 in screws from above, stopping short of the underside.

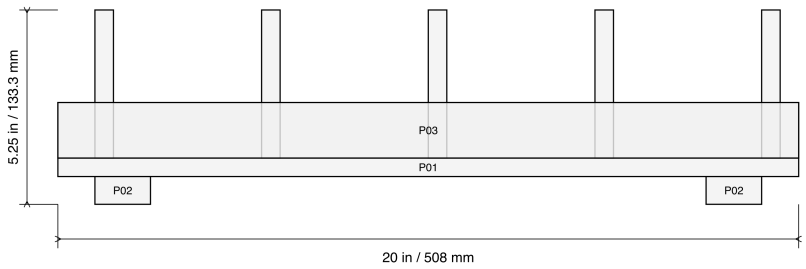
05 Set the two 20 in rails upright with their outer faces at y = 1 and 7 in; their clear gap is 4-1/2 in.

06 Fasten rails through the base with six screws each; check that screw tips remain inside the rail height.

Complete the assembly

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FRONT — transparent assembly projection from y = 0; controlling dimensions in inches



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07 Mark divider left faces at x = 1, 5-1/2, 10, 14-1/2 and 19 in. Each divider is 4-1/2 in front to rear and 4 in tall, resting on the base between the two rails.

08 Set each divider between the rails at y = 1-3/4 to 6-1/4 in, z = 1/2 to 4-1/2 in. Clamp square. The divider edges butt against the rail inner faces; nothing sits on top of the rails.

09 Fix each divider with two #6 × 1 in screws from beneath the base at y = 3 and 5 in, plus one #6 × 1-1/4 in screw through each rail into its divider end at z = 1-1/4 in. Add glue at the base joint and clamp through cure. There are four screws per divider; predrill the thin edges carefully.

10 Allow glue, if used, to cure before inserting paper. Keep the rack indoors on a dry shelf with circulation on all sides.

11 Clip a labeled open paper envelope in each bay. Keep seed lots separate and follow the crop-specific drying method before sealing for storage; this rack supplies no heat or humidity control.

12 Complete the acceptance checks below before putting the assembly into service. Record any changed stock thickness, fastener or equipment fit on the project sheet. The published geometry has not been physically built or load-tested.

Acceptance and intermediate checks

Four working bays each 4 in wide between 1/2 in dividers.

No screw point touches paper; rack does not tip when an envelope is removed.

Operation

Only dry room air; do not use as a heated dryer or place damp seeds in sealed plastic.

Cleaning and maintenance

Brush clean between lots and inspect for mold; clean and dry completely before reuse.