

Simple Hop Oast Construction

Thomas Harker, Research Assistant, The Ohio State University South Centers; **Brad Bergefurd**, Horticulture Specialist, The Ohio State University South Centers and Agriculture and Natural Resources Educator, Ohio State University Extension – Scioto County; **William Wayne Lewis**, Farm Manager, The Ohio State University South Centers; **Joy Bauman**, Information Associate, The Ohio State University South Centers.

Constructing a durable oast is essential to hop cone drying. This fact sheet will outline the basics of a simple oast construction.

Supplies Needed:

- Lumber 1" x 4" x 8'
- Lumber 1" x 6" x 8'
- Nails if using air nail gun
- Staples
- Screws
- Plastic 1/4" mesh or 1/4" hardware cloth
- Glue
- Paint
- Box fan

Equipment Needed:

- Cordless drill
- Saw
- Nail Gun (optional)

Oast Material Selection

When selecting construction materials for the oast, one needs to take into consideration the food safety regulations in the state for hops processing. In this section we will discuss the two different building materials that can be used in oast construction to meet food safety regulations at this time (January 2015). There are two types of material that can be used to construct an oast. You can choose pvc lumber or standard pine lumber. The pvc lumber cost is higher than standard pine, however with the pvc you will not have to paint after it is constructed. The pvc lumber also makes for easy wash down. To meet the current food safety regulations, the oast must be washable. When choosing the bottoms for the drying trays, use standard hardware cloth or a plastic mesh product.



Base Construction

The base is constructed using a 1"x6"x8' piece of pine or pvc lumber. The box fan used in this example was a standard 20" box fan. Build a 24"x24" square frame to house the box fan. Next, make a set of legs for the oast. This is done by lengthwise ripping a piece of 1"x4" into two 1 3/4" wide strips. Glue and secure two strips to one another using air nail gun or screws. Cut four legs each 16" long. Leaving 1 1/2" of space to the top of the frame, secure the four legs to the base frame with screws. Using more of the ripped 1 3/4" strips, cut and secure to the bottom of the base using screws. Using more of the ripped 1 3/4" strips, cut and secure to the middle to support the box fan.



Drying Tray Construction

Constructing the drying trays for the oast is similar to the construction of the base. Cut a 1"x4"x8' piece of pine or pvc lumber so that you can build a 24"x 24" square frame. Build four of these frames for the drying oast. Once all four trays are constructed, use some of the previously ripped 1 3/4" pieces and cut 16 pieces, each 3 1/2" long. Then, attach a 3 1/2" piece to all four corners of the tray. Be sure to leave a 1 1/2" space between the top of the tray and the top of the piece you are attaching, so that 1 1/2" of the corner piece will extend beyond the bottom of the tray. These pieces will help hold the tray in place when stacked on top of the oast base.

Once all four trays are completed, put the mesh bottoms in the trays. 1/4" plastic mesh is preferred. Cut a piece of the mesh or hardware cloth to fit the bottom of the tray. Cut sections out to fit around the feet on all four corners. Use staples to secure the plastic mesh or hardware cloth to the bottom of each drying tray.



Alternative Oast Sizes



If another size fan is available, oasts can be built to accommodate the fan. At left, a squirrel cage blower fan from a furnace is used for the air source. On the right is an oast using a standard box fan.



These programs are made possible through a grant from the Ohio Department of Agriculture, the State of Ohio, and the United States Department of Agriculture under the provisions of the Specialty Crop Block Grant.

For more information, contact Brad Bergefurd at 740.289.2071 Ext. 136 or email bergefurd.1@osu.edu.

The College of Food, Agricultural, and Environmental Sciences and its academic and research departments including, Ohio Agricultural Research and Development Center (OARDC), Agricultural Technical Institute (ATI) and Ohio State University Extension embraces human diversity and is committed to ensuring that all research and related educational programs are available to clientele on a nondiscriminatory basis without regard to age, ancestry, color, disability, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, race, religion, sex, sexual orientation, or veteran status. This statement is in accordance with United States Civil Rights Laws and the USDA.

Bruce McPherson, Ph.D., Vice President for Agricultural Administration & Dean

For Deaf and Hard of Hearing, please contact the College of Food, Agricultural, and Environmental Sciences using your preferred communication (e-mail, relay services, or video relay services). Phone 1-800-750-0750 between 8 a.m. and 5 p.m. EST Monday through Friday. Inform the operator to dial 614-292-6691.

Copyright © 2014, The Ohio State University