

# From Natural Gourd to Bird-house: Tips from a Gourd Lover

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Some time ago I started fashioning martin houses from gourds and quickly became fascinated with the hobby, finding it relaxing and a good way to pass the season when martins are not here. In 2002, I found my colony locations at Corpus Christi and Port O'Connor, both along the Texas coast, to be housing complete with no great need for additional gourds. Yet I continued to make them—looking for better gourds, using different entrances and concepts. This fascination has indulged the making of about 50 new gourds a year; some to replace my own, some stored, and many given away. In 2002, I completed a 2-year upgrade of a friend's colony, replacing his undersized fiberglass gourds with large naturals. The success of this replacement illustrates the attraction of natural gourds for martin houses. The colony of Ed Adams, which had declined steadily from its once-flourishing status, rebounded from a low of 5 pairs in 24 small gourds in 2001, up to 23 pairs in 2002 (with 16 new naturals), and 29 pairs nested in the 32 natural gourds offered in 2003. But gourd preparation had consumed my weekends from September through December, and I thought, "never again."

"Never again" did not smother my foolishness—I made another 50 or so gourds in both 2003 and 2004. I have written this article on how I prepare natural gourds in hopes that others might come to enjoy this relaxing pastime and have some guidance on how to start and proceed. I must state at the outset that nearly every idea or method that I use is one learned from others. I am aware that there are other good ways to accomplish some of the steps I set forth in this article and new

products are available that might offer alternatives. I appreciate all ideas, tools and methods that I learn about from others, and without naming those who have helped me, I say thank you to all—you know who you are.

## Cleaning the Gourds

Raw gourds are covered with mold, dirt and gourd membrane. I remove this debris using a stainless steel pot scrubber and a mixture of water, dish detergent and bleach. The debris is easily scrubbed off if the gourd is first soaked in water or squirted down with a hose. But care should be taken to remove it all, less it flakes off after the gourd is painted, resulting in continued paint loss. Some folks use a pressure washer and blast the debris off. No doubt this is easier. My own preference is to hand scrub the gourd, as it allows me to look for cracks and soft spots that might be cut out for the access port. More importantly, this allows me to study the gourd, to begin thinking of how I will hang it, where the entrance and access holes will be cut and whether the gourd should be hung vertically or horizontally. Knowing that the martins will likely nest at the point farthest from the entrance and out of its sight if possible, I try to place the deepest portion of the gourd on the bottom if hung horizontally (Fig. 2), or try to utilize the widest diameter of the gourd if hung vertically.

On horizontal gourds I study the possibility of an entrance hole on the side, beneath or at the end of the neck. If placed at the end of the neck, I've found that a starling-resistant entry is imperative. If placed on the side or underneath, the gourd



All photos by Louise Chambers

**Figure 1.** A natural horizontal gourd hung at an angle. This orientation offers good protection from rain and aerial predators.



**Figure 2.** In deciding how to hang a gourd, consider how its size and shape can be utilized to offer the martins a roomy and protected cavity.

should be of sufficient length to remove the nest from reach of aerial predators. I have found that entrances cut into the side or beneath the neck are best positioned if cut just above the point where the neck of the gourd flares into the body (see Fig. 2). Angle the cut slightly in the direction of the body. Side entrances on a horizontal gourd should be cut below the middle of the neck to provide a rain canopy of the portion above the hole (Fig. 6). If the gourd is not large, or other problems prevent using it as is, I consider the options of either adding a porched tunnel entrance, or cutting the hole in the access lid, resulting in what I call a “Cyclops” gourd. (Fig. 3) I try to place the deepest portion of the gourd on the bottom if hung horizontally (Fig. 1). Some gourds are too thin, too weak or unsuitable. Toss them—they are not worth the effort to complete.

### Cutting the Access Hole and Preliminary Hanging

When the gourd is thoroughly cleaned, an access port can be cut into the gourd. I make the cut with a 4” circular bimetal bit and a power drill. Others use drill presses or jig saws. Whatever method one uses, it is important to first determine the best location for the access port, considering where the nest likely will be built and how it will best be accessed, as well as the potential effects of adverse weather, reduced insulation of the port and the possibility of leakage—all of which could jeopardize nesting. Location of the port should face the outside of the setup to facilitate easy nest checks.

Once I’ve determined the location of the access hole, I slowly cut the gourd, with steady, but not great pressure. I hold the gourd snugly against bubble wrap or on a surface where it will not jump around. Wear a glove on the hand holding the gourd in case the bit jumps and cuts into your hand. Goggles and a breathing filter will help with the dust, which can be irritating. When the access hole is cut, you can reach in and pull or cut out the internal seeds and membranes. Soaking the gourd in water for 15 or 20 minutes will simplify their removal.

After cleaning out the inside of the gourds, I loop a small hanging wire made of aluminum electric fence wire through small holes in the neck to hang the gourds during the work process. Installation of the final heavy wiring is done last so that the final weight and shape of the gourd determine the best position on the gourd rack. In addition, at this point, I drill 4 or 5 drain holes in the bottom of the gourd. If the gourd will

ultimately be hung horizontally, these holes will be caulked in and others drilled for drainage (I do this after the gourd is wired on the rack and the angle of placement determined). Drain holes should be located at low points where water might accumulate.



**Figure 3.** A “Cyclops” gourd, with entrance hole cut into the lid of the access port. These entrances work well on smaller gourds hung vertically. The port offers a good interior perch.



**Figure 4.** From left to right, access port cut from plastic jug, collar sprayed with black paint, porched WDC (Willie D Conley) SREH entrance on PVC tunnel, and lid of access port with foam insulation in place.

entrances (see Fig. 4), which are well worth their cost.

### Soaking the Gourd

In order to preserve the gourd and prevent recurrences of mold and mildew I soak gourds in a solution of water and copper sulfate. Copper sulfate is sold at Walmart as Roebic brand root killer. The label will read 99% copper sulfate. I add one container of the copper sulfate to a 33 gallon trash can in which I soak my gourds, filling the trash can nearly to its top with water. Generally I can soak about five large natural gourds at a time in the trash can. Exercise care not to cram gourds too tightly and break them. Gourds tend to float, so I gently place two or three cinder-block stepping-stones on top of the gourds to keep them submerged. I also soak a few of the 4” cutouts from cutting access holes to use for repairs in the future. I soak all of my gourds in the same mixture, allowing each batch to soak for at least 30 minutes before hanging them to dry.

### Cutting the Entrance Hole

By now I have handled and studied the gourds and made decisions on placement of the entrance hole. I cut it with a 2” circular bimetal drill bit for round entrances or a 3” bit if installing tunneled SREHs. Intricate SREH patterns can be cut directly into a gourd but one must be careful and patient when making those.

I prefer the commercially available

### Making and Installing the Access Ports

I use plastic half-gallon jars to make access ports that have a round 4” opening that flares to about 5” just below the top. I cut the jars about 1” below the opening in a circular fashion, leaving four 1/2” tabs spaced evenly around the circle (Fig. 4). Jars can be cut with a knife, a jig saw with small scroll blade or a mini jig saw. First I outline with a felt marker where my cut will be, then quickly saw around the marked area. I save the remainder of the jar to make canopies to cover entrance holes on vertically hung gourds. At least two can be made from a single jar 5” long and 2” deep with two tabs cut into the base

of the canopy for attaching it to the gourd.

After access ports are cut, I tightly screw on a jar lid and spray the jar, inside and out, with black exterior spray paint. I reuse lids when painting and hang the gourds with clean white lids. To insulate the access port, I cut circles of foam board (found at home supply stores in 4' x 8' sheets) with a jig saw, sand the edges and hot glue them into the lids (see Fig. 4).

I install access ports after I paint the gourd, as described below. Before adding the ports I test them in several positions to find the snugest fit. I install #6 x 3/8 inch screws through each tab of the port and into the gourd. Caulk is then added around the outside rim of the jar, leaving a gap in the caulking on the underside of the port for drainage. Rub the caulk with a wet finger for a smooth finish.

### Painting the Gourds

Painting the gourds is my favorite step. I paint the entire gourd with two coats of quality exterior primer, letting it dry thoroughly between coats. Once the gourd is primed and dry, I add two coats of elastomeric paint, the second of which is applied rapidly to supplement the first and cover any thin spots or missed places. Lastly, I add some sand to a small amount of paint and add texture to likely perching spots. I prefer Moorlastic, a white semigloss elastomeric paint made by Benjamin Moore. It provides a hard, durable surface. Applying the paint with a nylon brush results in a rippled effect that gives the martins a good perching surface. Moorlastic costs about \$25 per gallon, but a gallon will paint nearly 100 large natural gourds, and holds up better than cheaper brands I have tried.

### Installing the Access Port, Vents and Canopy

At this point I add an access port as described above and paint over its black exterior. Elastomeric paint will work fine, or a specific color can be used to identify the gourd to a particular system.

On vertical gourds I install rain canopies approximately 2" above the hole, unless the shape of the gourd dictates a

different placement. The canopy is cut from the bottom of the jar used to cut the access port, and installed using two #6 x 3/8 inch screws through the two tabs faced in the direction of the entrance hole. Caulking secures the canopy further, and provides a sealant from rain.

Research indicates that providing vents to increase air circulation does little to reduce the overall temperature of a gourd. However, I still add vents to increase circulation and allow hot air to escape (see Fig. 5). Vents are made from 1/2 inch (inside-diameter) PVC 90 degree elbows. A hole is drilled into the top of the body of the gourd or into its neck at a position opposite the entrance hole and to the side of the likely nesting spot using a 7/8 inch drill bit. File the hole larger if necessary, but the elbow should fit tightly in the hole, and be sealed with caulk. The vent holes can be plugged or capped if necessary due to cold weather.

### Installing the Hanging Wire

I am aware of a number of instances of gourds being blown off of systems, or falling when a multi-strand or inadequately sized hanging wire fails due to corrosion, breakage or other factors. Some of these failures have, unfortunately, been my own. I now use only #10 gauge, single strand, insulated copper wire. A 500' spool costs about \$25.

Before wiring, study the gourd. If you have a porched and/or tunneled entrance, strive to hang it so that it is both vertically and horizontally level. Your system might dictate whether the gourd is wired from side to side or front to back. I have found that gourds wired front to back tend to swing less. One might opt to face the entrance in a particular direction. I believe that every martin system has a center of activity, and focusing entrance holes toward that center might increase the occupancy of the system. In hot climates, entrances that face the southwest tend to be less popular. I fill those spots with gourds where the nest is situated deep within the gourd and face entrances away from the sun. Likewise, access ports



**Figure 5.** PVC elbows can be installed opposite of entrance holes to help vent heat from gourds during hot weather. To hang gourds, 10 gauge wire is used along with an electrical tie for added safety.



**Figure 6.** Horizontal gourds are hung by two pieces of wire to offer the gourd at the best angle for access by martins and to provide protection from rain.

should face away from hot sun or cold winds. I have found that entrances cut above the equator of a vertical gourd, so that they face slightly upward, are preferred to entrances facing downward or straight out. These needs can each be addressed in wiring the gourd.

For vertically hung gourds the wire goes through the neck of the gourd from side to side or front to back. To raise the position on a particular side of a gourd, lower the hanging wire on that side (and vice versa). To hang horizontal gourds I use two wires—in the front and rear of the gourd. Hold the gourd how you want it to hang, mark it, and drill wire-sized holes along the top centerline. The front hole will be on the neck or where the neck merges into the body. Leave 3-4 inches beneath the front hanging hole to allow martins to cleanly navigate beneath the wire. Center the rear hanging hole also, taking care that the wire is clear of the access port, and that the port faces outward for nest checks (see Fig. 6). After drilling the holes, cut two sections of the 10 gauge wire—a 12 inch piece for the front and a longer one for the rear. A knot is tied into one end of the wire (this might require using two pairs of pliers and results in a rather loose but secure knot). The open end is inserted from inside the gourd and the knot pushed flush against the inside gourd surface.

### Hanging Gourds on the Rack

My Lone Star systems hold up to eight gourds per level, four on a framework of hanging rods, and four on the heavy wire that stretches between the rods (see Fig. 7). The hanging rods are best for horizontal gourds, or for vertical gourds with a hanging wire running from side to side, which tend to swing too freely if attached to the heavy wire between the rods.

I secure the front wire of my horizontal gourds first, letting the gourd dangle about 3-4" from where it is attached. The back wire is then used to level the gourd or set the angle the gourd will hang at. Once the gourd is in the proper position, I twist the wires around the support wire, twisting them in opposite directions. When secure, I tie a plastic electrical tie around one or both wires and snug it to prevent movement.

To install the vertical gourds I use a heavy-duty electrical tie. If the gourd's hanging wire runs front to back, two ties will be needed to point the gourd outward from the perimeter wire (see Figs. 3 & 5). On gourds where the hanging wire is parallel to the gourd rack, a single electrical tie is used. Ties should be tightened well to keep the gourd from sliding.

After vertical gourds are attached with ties, I add a safety wire for the gourd, attaching it snugly to the gourd rack passing through the gourd wire. This type of attachment withstood 110 mph winds during hurricane Claudette in 2003, allowing a single

remaining nestling to survive and fledge successfully. Once the gourds are attached to the rack, check drain holes and drill those needed for horizontal gourds.

### My Favorite Gourds

Part of the beauty of hanging natural gourds stems from their individuality, and the familiarity wrought through the preparation process. Each is a favorite in some respect. I am biased in favor of large gourds (10-12" diameter) and horizontal gourds. I have come to use the "Cyclops" concept of cutting the entrance directly into the access jar lid [eliminating a second hole] almost exclusively. They are easier to make, the hole is durable or the lid can be replaced; SREH options, although technical, are available, and I have observed that the martins seem to like them better. They certainly like the natural perch inside the entrance where the access port flares out. (see Fig. 5) The cyclops concept increases the depth of the gourd and functions as a rain canopy. Installing the cyclops port above the equator of the gourd provides more light and a better angle for nest checks.

I offer horizontal gourds with holes at the side and beneath the neck. I have been pleasantly surprised to find gourds with holes beneath the neck to be the first selected at my locations and reentry into these seems to be easier for nestlings returning after fledging. They are virtually

rainproof and perhaps provide some protection from aerial predators that don't immediately see the entrance hole. Because starlings like them too, I no longer hang horizontals with entrances at the end of the neck, as this was too easy for starlings to enter.

### In Conclusion

We all would like to envision some artistic talent within us. Perhaps making an attractive natural gourd is the extent of my artistic ability. Yet, in writing this article, I am energized, and reminded that I am offering what is thought by many to be the very best housing available to attract and house martins. And no sight is as attractive as that nature provides when the heads of several nestlings stick inquisitively from the entrance of a natural gourd. Which reminds me—it's time to go check nests.

*John Barrow hosts over 75 pairs of martins at his colonies in Corpus Christi and Port O'Connor, Texas. Occupancy rate for his 47 natural gourds was 100% in 2004 and included four successful second broods producing 17 fledglings. As of April 1, 2005, 59 of 60 natural gourds are occupied by ASY pairs.*



**Figure 7.** By providing a variety of orientation and entrance hole placements to discourage domination of more than one gourd per pair, the author has achieved high occupancy rates in his gourd racks.