Selection, Use and Maintenance of Hummingbird Feeders

Almost everything you ever wanted to know about feeders
by Carolyn Ohl-Johnson (©westtexashummingbirds.com)

While the task of selecting, hanging and maintaining hummingbird feeders isn't rocket science, it needs to be done properly, or not at all. Once you get the hang of it (no pun intended) it just comes natural, like tying shoe laces, and will guarantee to give you almost year-round pleasure. It is well worth the effort.

Getting Started

Hummingbird feeders run the gamut from single glass ornamental feeders with small reservoirs and one feeding port, to larger 6-8 portal feeders with reservoirs of varying sizes and plastic bases of varying designs. Your selection of a particular type of feeder will depend on several factors including but not limited to 1) what geographical area you live in, 2) how many birds you are feeding, 3) what species you are feeding, 4) how often you are required to refill your feeders (related to item 2), and 5) what climate you live in (somewhat related to item 1).

To begin with, glass reservoirs are better for extending solution life than are plastic reservoirs. Also, feeder portals that are angled are more user friendly to hummingbirds than those with portals oriented vertically (90° to the ground) on horizontal bases. Whatever you choose it’s best to start out with quality feeders, as many as you can comfortably afford and/or maintain. It’s imperative that you keep them clean, and hang them properly. In the end, if you want to just go with what you have, inexpensive Wal-Mart feeders or one from another company, you can do that too.

Feeder Selection

In my opinion the best feeder currently available is the Dr. JB’s Clean Feeder (http://drjbs.com/). They are by far the most bee-proof, easy to clean and fill, and most durable feeder out there. They have a glass reservoir, which is good, and it has a large opening of just over two inches making it easy to clean. The top of the reservoir sits perfectly flat on the countertop making refill an easy task without a funnel. The heavy-duty plastic base is two-piece for easy inspection and cleaning. It is designed with two interior circular baffles to properly control the flow of solution from the reservoir to the feeding trough under each feeding portal. The four feeding portals are angled and you can pick your choice of flower color (yellow, red or purple). The flower inserts are very sturdy and not prone to damage by woodpeckers. On the negative side the feeder only holds 16 oz. of solution and that can be a limiting factor in high volume locations. Also,
if not hung properly they will leak but then that is a problem common to all feeders. There is one more thing to keep in mind when using this feeder. After an extended steady rain or a heavy downpour, this feeder will require immediate maintenance. This is due to the fact that the glass reservoir does not fit tightly onto the plastic base. Rainwater will enter the feeder base at the loose seam between the base and reservoir diluting the solution and overfilling the base. Ever notice bees underneath the feeder base after such an event? That is your clue the above has happened. If the feeder solution is fresh, you can reuse the solution that remains in the reservoir.

Kelly Bryan uses this feeder exclusively in his yard in Fort Davis and as of the spring of 2012, Dr. JB introduced three new large volume bottles to fit its well-designed base. All three are made of very heavy duty plastic and come in 32 oz., 48 oz., and 80 oz. capacities. Unfortunately, the wider dimensions of the reservoir on these models seem to deter birds from using them. When placed side by side, the 16 oz. glass reservoir feeder will go empty when less than 10% of the 48 oz. feeder will be utilized. This results in a lot of solution being discarded from the larger reservoir models because it goes bad before it is utilized.

**Nature’s Best** and **Best-1** both make similar designed, similar sized feeders with glass reservoirs. Reservoirs range in size from 8 oz. to 32 oz.; however, they all have restricted openings for filling and maintenance. The bottle opening is just under ¾ of an inch, which requires a funnel for proper filling and a bottlebrush for proper cleaning. The top of the reservoir is flat so it is stable on a countertop or other flat surface when refilling. Their two-piece bases are plastic and are easy to clean; however, solution level in the base is controlled by only one factor—the position of the bottle opening when screwed onto the base in relation to the slot that feeds the bottom of the base. If tilted during hanging they tend to overfill very quickly. If overfilled,
solution will seep up around the threads at the connection of the bottle to the base and at the seam of the two-piece base. These are the first places vulnerable to bees and wasps on this type of feeder. To prevent seepage around the bottle threading a quality garden hose gasket (not a plastic one) will usually stop that. **Nature’s Best** makes a feeder base that allows you to choose the level of solution in the base by rotating the top portion of the feeder base 180 degrees. This positions a tab over the flow slot reducing the level of solution in the base by half. Both types of feeders have base tops that are horizontal to the ground, not angled. Therefore, the feeding portals are oriented vertically as well; Best-1’s portal is totally vertical, Nature’s Best opening is slightly angled toward the perch. Another item to consider is the fact that a Best-1 base will fade quickly if hung in direct sunlight, but keep in mind that all plastic parts on hummingbird feeder will eventually deteriorate when over exposed to sunlight. There is one other difference between the two brands; Best-1 has two perch rings attached to the base accommodating both small and large hummingbirds.

This design also has a problem with rainfall. Due to the fact that the feeder bases on these models have tops that are horizontal to the ground, rain will quickly accumulate on them and enter the base through the feeding ports. The bases will completely overfill providing easy access to the solution by bees and wasps. Dumping the diluted solution in the base will be required to rectify the situation. Once again, if the solution in the reservoir is fresh it can be saved and reused. Attaching a clean, dry base and re-hanging it properly, will assure it will be as bee-proof as possible.

**Perky Pet** perhaps provides the largest variety of feeder design in the market. Their “Grand Master” model holds 48 oz. of solution and has an attractive base with six feeding portals making it a leading choice for high volume feeding. This is the only
feeder of choice at Hummer House near Christoval, Texas where Dan and Cathy Brown host several hundred Black-chinned Hummingbirds in spring, summer and fall. This is currently the feeder of choice by Kelly Bryan at his cabin in the central portions of the Davis Mountains where fall migrants can number in the hundreds and the species count can be as high as ten. The large solution reservoir has the widest opening of any feeder on the market at 3 ½” making it super easy to clean; however, its top is not stable on a flat surface due to the design of the hanger and the way it is attached to the top of the feeder reservoir. Also on the negative side it is an all-plastic feeder and the four locking devices built into the opening of the reservoir (it locks into the base with a twist instead of screwing into the base) tend to become brittle and break. If two or more break then the reservoir tube is not very stable once attached to the base and may become completely unusable. Another negative aspect of this feeder is that the feeder base is two pieces welded together as one making it a bit difficult to clean properly, and the seam between the two pieces underneath the base can leak, easily attracting bees and wasps. It is best to seal that seam with silicon, caulk or other substance. It is also best to seal the seam between the base and each of the flowers. This is where bees accumulate when the base becomes overfilled. On a totally positive note compared to previous designs, this feeder is completely unaffected by heavy or sustained rainfall. Perky Pet’s best feeder with a glass reservoir is a similar, soundly designed feeder with a sturdy one-piece base and angled feeding portals; however, it only holds 30 oz. of solution and the reservoir opening is a mere ¾”. In most situations 30 ounces is plenty of solution. Perky Pet offers several other designs that are worth considering.

Filling Your Feeder

You will normally use a solution of **4 parts water to 1 part sugar**; however, there are occasions when a solution of 3 parts water to 1 part sugar is acceptable. This ratio provides a bit more energy content with each sip and can be used as a start-up solution for initially attracting birds or (more commonly) as a winter ratio. Keep in mind that during hot weather a 4 to 1 ratio will become more concentrated due to
evaporation. Using a concentration greater than 3 to 1 is not recommended. Please remember, do not use food coloring! Also, there is no reason whatsoever to add artificial additives, of any kind, to the simple sugar-water solution. Boiling the solution won’t hurt, but isn’t necessary; simply stir the mixture until the sugar is totally dissolved. Once the sugar is dissolved pour the solution into the feeder reservoir carefully. Do not let the solution get on the outside of the feeder where bees, wasps and ants can find it. If you spill some, it would be best to pour the solution back into the container you had it in, rinse off the feeder thoroughly, dry it and start over. Store any unused solution in the refrigerator; however, the longer it stays in the refrigerator the quicker it will sour once put in a feeder outside. Once filled, attach the base to the reservoir but leave the feeder upside down until you are ready to hang it.

Hanging Your Feeder

Take the full feeder, still in its upside down position, to where you intend to hang it. Then turn it over quickly at the last second, making sure the solution doesn’t gurgle excessively and overfill the basin. Holding the feeder by its hanger, not by its glass or plastic reservoir, hang it immediately on its hanger. Be very careful you don’t tilt it or shake it when hanging the feeder. Don’t worry if you hear one or two glugging sounds with bubbles, but keep it to a minimum (actually it depends on the model used as to how much glugging or bubbling occurs as the base fills). This is crucial to preventing the attraction of bees and other insect pests and if you follow these instructions carefully you will have minimal problems. Hummingbirds have long bills and equally long tongues that can reach nectar way beyond what insects can reach. Put only enough solution in your feeders to last for a few days. It shouldn’t take long to determine how much that is, but it’s something you just have to get a feel for as you go. If you have a high volume of birds then filling the feeder completely is usually warranted. When the solution gets cloudy, it’s time to discard it and clean the feeder. Feeders that are hung in direct sunlight will spoil sooner than those hung in shady areas. In cooler weather feeders will last longer, sometimes as long as a week. Remember that solution in plastic reservoirs will tend to spoil sooner than solution in glass reservoirs.

You can hang your feeders in any number of locations and hummingbirds will likely use them. Normally, feeders are placed in a location where they are easily observed. This way you can keep track of activity at your feeders and look for unusual species. Such locations would include but not be limited to outside your kitchen sink window, outside the windows of an eating area, outside the windows of a family room, around a patio or covered porch, and/or in the backyard next to natural vegetation. Use a simple cup hook to hang feeders from your house or other structure. If it is too high, a piece of wire or chain will suffice to lower the level of the feeder. For best viewing the feeder should be about eye level or less. In the backyard, feeders can be hung from a wire
suspended between two trees or other solid objects. You can also use a hanging wand, stand, or shepherd’s hook, inexpensive items sold at garden centers to hang potted plants from. If you have a problem with predators, especially feral cats, then you must devise a strategy to place your feeders in locations that do not give the predator a hiding spot from which to attack. Other combative measures are mentioned below under feeder pests.

**Cleaning Your Feeder**

Whichever type feeder you use, you’ll need some cleaning tools. First, a bottlebrush is a must for cleaning inside the reservoir. Cleaning of the base and portals can be accomplished with various things, such as an old toothbrush, pipe cleaners (for the ports), or any small flexible brush. A variety of commercial products can be used for cleaning feeders. Feeder suppliers usually stock a variety of brushes if you want to try some different types. They make one specifically designed to clean the feeding ports. Generally, if you keep the solution changed regularly, and soak the feeders in water with a few drops of bleach added, they’ll need very little additional cleaning. After you clean them, be sure to rinse thoroughly. Finally, to fully combat feeder pests, it is best if the outside of the feeder is completely dry before refilling and hanging.

**Weather Considerations**

One of the first questions normally asked concerning weather related issues is “when do I take down my feeder in the fall? I don’t want my feeders to make my birds stay when winter arrives—the little guys will freeze!” Time and time again most folks are advised to take down their feeders before the first freeze occurs so the “hummingbirds will leave and migrate”. Typically, this is the type of information passed on by someone that does not know a thing about hummingbirds. Despite their size they are very hearty little birds and several of the species that linger after the first hard freeze, breed in areas of North America that are subject to freezing spells anyway. Because of their high metabolic rate, hummingbirds have the ability to sleep at night in a state of metabolic shutdown, called torpor, to conserve energy. This nightly “hibernation” allows them to wake up in the morning with adequate energy reserves to search for food for several hours. Torpor enables a bird to survive freezing weather just fine.

With that said, some maintenance factors must be considered during freezing weather. Sugar-water solution will freeze when the outside temperature falls below 27° Fahrenheit. Watching the weather forecast will help you make informed decisions about what to do with your feeders. Sometimes that may mean taking your feeders down after dark on nights that are supposed to have hard freezes and re-hanging them at daybreak. Some of us dedicated hummer-feeders even warm the sugar water after a
freezing night, and some people hang heat lamps over or under their feeders. Tactics like these are especially important if the daytime temperature remains below freezing and will ensure an energy source for any hummingbird still present under such conditions. Once a cold spell has passed they can go about finding insects, their primary nutrition source, and use your feeder for their energy source.

Other weather factors have the potential to create feeder maintenance issues. If high winds tilt feeders enough to make the overfilled solution accessible to bees, you’ll need to empty, rinse, and refill them as described below in the section on bees. Hail can break feeders, especially those hanging out in the open. What I usually do when that happens is to salvage any part of the feeder that is unbroken. Usually, I’ll need it on a different broken feeder. That’s a good reason to have as many identical feeders as possible. Another issue is rain. Heavy rain can dilute and overfill a feeder base to the point that the solution becomes accessible to bees. Rain will filtrate into the base at the bottle opening on some models and at the feeding ports, especially if the openings are horizontal to the top of the base. If that happens you’ll need to empty, rinse, and refill the feeder. Additionally, keep in mind that feeders hanging in hot sun will spoil sooner. That is not to say do not hang them in hot sun; some hummers seem to prefer feeders hung in the sun. I would hang some in the sun and some in the shade.

**Feeder Pests**

*Ants*: The ant protection that works best is a permethrin laced ant guard. You can buy them at stores that sell bird-feeding supplies, order them online, or you can simply make your own. Make them using a liquid detergent bottle lid, a small turnbuckle (the kind that have a hook on one end), and a pad inside that you spray with permethrin.
Permethrin is a natural insecticide and deterrent, not a synthetic one. This will usually last a month or two before needing to be sprayed again. If you buy the commercial model from Perky Pet, you can spray the pad inside them whenever ants start bothering your feeders. That would probably require buying permethrin online, but one bottle should last forever. Next best is swabbing the hanger wire with Vaseline. That needs to be redone occasionally and can drip onto feeders during hot weather, which most people find undesirable. Ant guards that are essentially “moats” can be problematic, especially in areas with heavy rainfall. In dry climates putting a bit of baby oil in the water moat will reduce evaporation; however, if a heavy rain comes and it overflows you will have baby oil all over your feeder.

**Bees and wasps:** If you carefully follow the above instructions on hanging a feeder properly, bees and wasps shouldn’t be a problem. Changing the ratio of sugar to water, using different color feeder ports, or putting out a bowl of sugar water just for bees, etc., is not helpful. If wind or something else sloshes a feeder, and the solution is still fresh, pour it into a pitcher, clean the feeder, and refill it. Well worth the effort. If bees have already descended on the feeder, it’s best to hang it in a new location for a few days until the bees abate. But really, if feeders are kept clean and hung properly, bees and wasps won’t be a major problem. In the end the keys are keeping the feeder clean and the level of solution in the base as designed.

**Feral cats:** This predator has an impact on birds more than any other. It is imperative that you not allow feral cats to stalk birds at your feeders, whether at seed feeders or hummingbird feeders. It’s your choice as to how you control such a pest. The birds will thank you in the end!

**Other Critters:** Raccoons, bears, and other critters can occasionally be a nuisance. Many hummingbird feeders have disappeared overnight never to be seen again. Once raccoons find a feeder they simply will not leave it alone. If that happens you’ll have to hang your feeders from a shepherd’s hook stand or something they can’t climb. Squirrel guards and greased poles work. The latter tactic is necessary to keep raccoons off of the feeders at Kelly Bryan’s cabin in the Davis Mountains. Axle grease was the lubricant of choice and since deployed, raccoons have not molested a single feeder.
Another way to keep your feeders from vanishing into the woods is to attach them with quick links (a 3/8” stainless steel one works best); that way your sugar water may get dumped on the ground but your feeder will still be hanging. Also, hanging your feeders from a long swing chain from a high roof overhang works well. Depending on your individual setting and ability, you can experiment with different locations. The hummingbirds will have no trouble locating a feeder, so don’t worry about that.

**Tips**

It has been determined that hanging feeders in clusters attract more hummers; group 3 or 4, or more, together at each location to make a cluster. Having more than one cluster in your yard will give more individuals an opportunity to take advantage of the sugar-water energy source. How does this actually work? Aggressive birds that try to dominate a single feeder will typically give up trying to defend all of the feeders in a cluster opening up access to the other birds present.

An interesting experiment worth considering is hanging feeders in tandem; one hanging from the one above it, which theoretically should work great. Only one ant guard protects both feeders and at least the top feeder is less susceptible to wind. Hummers seem to have preferences for one area or height, so that makes more space available for feeding in that area. Keep in mind that at least one species, the Calliope Hummingbird, prefers a lower feeder, whether it is one hung in tandem or by itself. However, hanging a feeder this way might be
considered to be in the category of advanced feeding. Perhaps beginners should start more simply. It's just something you might like to keep in mind and try someday.

**Conclusion**

Why did I go to the trouble to write this article? Time and time again people make statements like, “it’s too messy to deal with hummingbird feeders”, “I can’t keep ants off the feeders”, “I can’t stand the bees and wasps”, “my neighbor said to use a 1 to 1 ratio of sugar to water”, “I was told to use red dye so they can see the feeder”, “I don’t know how often to change them out”, or “I was told not to feed hummingbirds in the winter”. Hopefully, this article will help rebuke a lot of the miss-information that is circulating among hummingbird lovers, especially those in the novice community. Maintaining hummingbird feeders, like riding a bike, may seem complicated being explained in all it's ramifications, but for anyone who wants to feed them, it's well worth it. After awhile it becomes so automatic that you don't even feel that it's a bother. It's enjoyable or at least gratifying hanging clean, fresh feeders and watching the happy hummers.

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