



Let's Take Some Birds to Lunch!

Why feed birds?

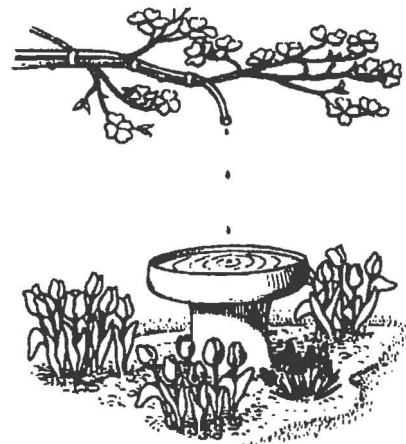
Enjoyment! Birdfeeding is one of the most popular recreational activities enjoyed by U.S. residents. Of all the hobbies Americans enjoy, gardening is the most popular hobby, followed by birdfeeding. In 1991, 2.05 billion Americans fed birds. Birdfeeding is also becoming big business. Each year, more than two billion dollars' worth of bird seed is sold in the U.S. In Iowa, more than 900,000 people feed wildlife and spend about 24 billion dollars on supplies.

Birdfeeding has even changed some migration patterns. Iowa's state bird, the American goldfinch, now spends winters in Iowa because so many people supply them with their favorite foods during the winter months. And cardinals have expanded their winter range into Canada as a result of feeding.

Getting Started

To get started in birdfeeding, you must first consider the basic needs of wildlife. Wildlife, like humans, need something to eat, protective cover where they can raise their young, shelter, and water to drink. The amount and quality of the food, water, and shelter in your yard and neighborhood will influence the number and types of birds that you attract to your bird feeders.

Hedges and conifers provide nesting sites for birds during the summer and shelter during the winter. Certain plants provide food for wildlife. Berries such as mulberry, cherry, and raspberry provide spring and summer meals. Sunflowers and honeysuckle provide food into the fall. Crabapples, rose hips, nut-bearing trees, and vines such as bittersweet and grape are winter crops. Grassy patches and flowers such as black-eyed susan, goldenrod, coneflower, sumac, marigolds, and zinnias provide seeds for birds during the winter. Some sort of watering place is important to attract birds which especially like the sound of trickling water.



The best time to start feeding birds in Iowa is during October or early November. During this time, birds which will spend the winter in the area are setting up their feeding circuits. If you have your feeders up at this time, more birds will include your feeders in their feeding route. Try to locate your feeders where you can easily view them without disturbing the birds. Remember to hang your feeders where you can conveniently refill them. Also hang feeders near cover such as trees or shrubs. These provide perching areas while birds wait their turn to feed. If there are no nearby shrubs, you may provide cover by building a small brush pile or use old holiday trees. Be sure to place your feeders out of the wind if possible.

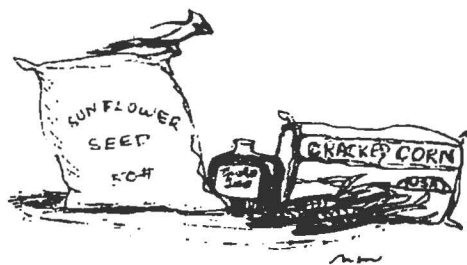


Many people believe that once you start feeding birds you must not stop. All the answers are not known. Recent research has shown that birds use a variety of nearby natural foods in addition to our feeders. If your feeders become empty during a winter vacation, it will probably have little effect on the population of birds. It would be most helpful to plant food-producing vegetation to provide the birds with natural food and cover to supplement your feeders.

Let's Eat

The phrase "eat like a bird" is simply not true. In the winter, a bird will eat 30 to 80 percent of its body weight each day. This is like having an 80-pound child eat 150-200 hamburgers each day!

Studies of birds at feeders have shown that the most attractive food for the widest variety of birds is sunflower seed. Of the different types of sunflower, black oil sunflower tends to be the most popular and it is high in protein and fat. The next most popular food is white proso millet, followed by suet and peanuts. Niger thistle seed is especially attractive to American goldfinches and house finches. It is more expensive, so it is best dispensed in a tube feeder with small holes.



Many commercial bags of bird seed are full of filler seed such as milo, wheat, hulled oats, rice, oats, groats, flax, and rape seed that are not highly preferred by most birds. Although it seems cheaper in price, buying bulk preferred seeds usually saves you money in the long-run.

Feeding Styles

Birds have different types of bodies, bills, and feet so they tend to prefer different feeding styles. Consequently, there are different types of feeders to attract different types of birds.

GROUND FEEDERS will attract cardinals, blue jays, pheasants, quail, pigeons, mourning doves, various sparrows, and juncos. These birds will often feed on seeds spilled from hanging feeders or on a ground-type feeder. These birds can be fed with food placed on the ground or on a simple tray mounted on a stationary object such as a post, stump, or pole. Place this feeder five to ten feet from your house.

PERCH HANGING FEEDERS will attract goldfinches, chickadees, nuthatches, pine siskins, and woodpeckers. These feeders are often free-swinging and used by birds that don't mind swaying in the wind while they feed. The feeders can be tubes or silo-type feeders. These should be placed at least five feet off the ground and out of jumping reach of squirrels.



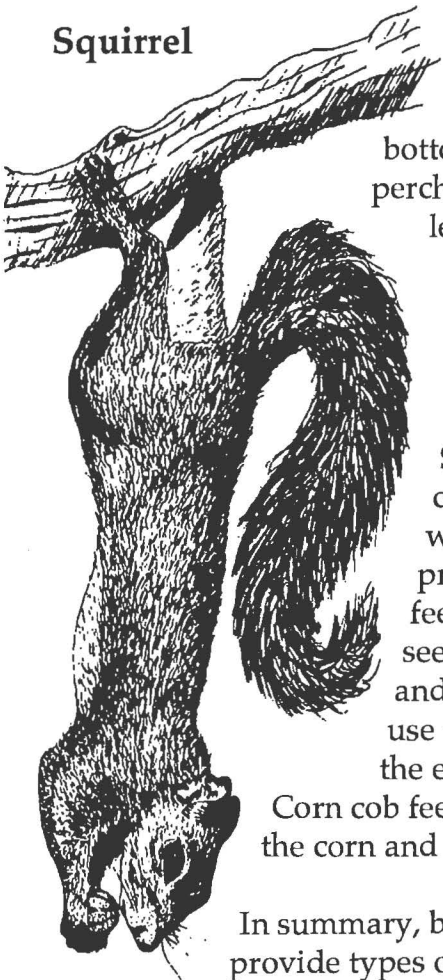
CLINGING FEEDERS provide no perches and come in a variety of forms. Log feeders, an onion bag filled with suet, or a dead tree are examples. Hairy, downy, and red-bellied woodpeckers are attracted to clinging feeders. Their feet are especially adapted for grabbing this type of feeder. Black-capped chickadees and white and red-breasted nuthatches will also frequent these types of feeders.

Feeder Problems

Sooner or later you may encounter some problems with your feeders. Some of the most common problems are house sparrows, starlings, and squirrels.

House sparrows and starlings are not native to the U.S. and will out-compete and even kill many of our native birds. They are not protected by law and can be trapped or otherwise selectively removed. House sparrows do not particularly like

Squirrel



hanging feeders. You may further discourage them from using hanging feeders by eliminating bottom trays and by cutting the perches to less than one inch in length. Another way to discourage

house sparrows is to set up a ground feeding station far away from your hanging feeder and place different foods in both feeders. Your goal is to lure the pests away from your feeder near the house.

Squirrels can jump more than four feet to reach a feeder and can climb any wooden post. Metal posts and clotheslines will slow squirrels down, but they are not always squirrel-proof. With some squirrels, you may have to wire your feeders shut to prevent the squirrels from getting into the seeds. Round or funnel-shaped baffles can be attached above and below the feeders to help keep out squirrels. You can also use tubing to make it difficult for them to reach the feeders. In the end, compromises such as separate feeders seem to work.

Corn cob feeders are simple to make and will encourage squirrels to eat the corn and not plunder the birdfeeder.

In summary, birds tend to feed in different areas, so you may want to provide types of feeders. Supplying preferred foods such as sunflower, millet, suet, and peanuts and landscaping your yard to provide proper habitat will ensure that you will successfully take some birds to lunch!



Starling



Activity: Birdfeeding

Objective: Students will construct various types of birdfeeders and will match birds with their feeder types and food.

Procedure: Ask the students to find pictures of different winter birds. Display the pictures. Talk about feeding birds and display examples of the different types of seeds that birds eat, as well as examples of the different types of feeders (ground, hanging, tree trunk, and squirrel).

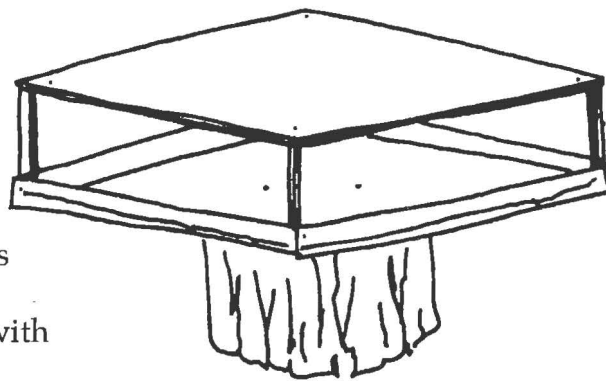
This activity has eight stations and takes approximately three hours to complete. Each student will make a pop bottle hanging feeder and a peanut butter pine cone feeder. Rotate the students through each station so they get an opportunity to make different kinds of feeders. You may modify this activity to make fewer types of feeders. It is often helpful to have one or two adults at each station to help in construction of the feeders.

Ground Feeders

Station 1

This is just one style of a ground feeder. The wood should be precut. A high school shop class or a parent might assist in cutting the wood. Have the students use hammers and wear safety goggles while building the feeders. It is best to attach the bottom of the feeder to the log base before adding the roof; otherwise there is not enough room for the hammer between the roof and the bottom of the feeder. Adult supervision and assistance is needed.

2 pieces of $\frac{1}{4}$ " plywood cut 12" x 15"
2 support pieces of wood cut 5"
2 support pieces of wood cut 4"
(The roof will be slanted.)
1 6" log cut even at both ends for the base of the feeder
2 pieces of $\frac{1}{8}$ " lattice cut 12" for the sides
2 pieces of $\frac{1}{8}$ " lattice cut 15" for the sides
Use finishing nails for most of the construction. Anchor the log to the base with shank-type nails.

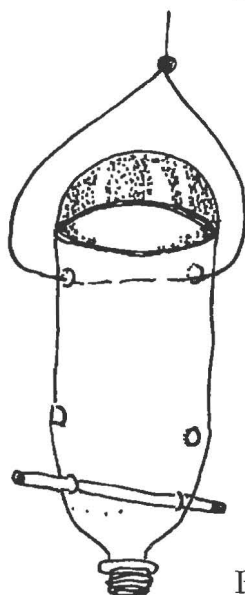


Birds that use ground feeders include blue jays, cardinals, mourning doves, house sparrows, pheasants, and evening grosbeaks. Fill ground feeders with sunflower, cracked corn, or mixed seed.

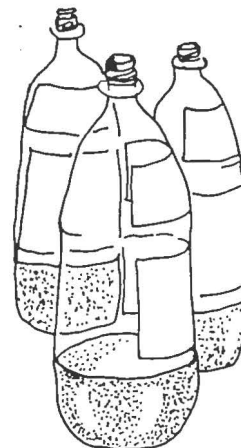


Hanging Feeders

Station 2



To make pop bottle feeders, you will need one two-liter pop bottle **with cap** and one pencil per child. Make sure the pop bottle is clean and dry inside. Before the children start this activity, have an adult melt six holes into the plastic bottle with a soldering iron. (See diagram.) The holes should be the diameter of the pencil. By melting the holes, a lip is formed and the seed doesn't fall out as easily. Have the children put their pencils in the bottom holes. The string should be strung in the top holes. Pipecleaners work well as a large needle to thread the string through the holes.



Place tape over the holes if the students fill the feeders with seed. To fill the feeders, cut a two-liter pop bottle in half and use the mouth of the bottle as a funnel.



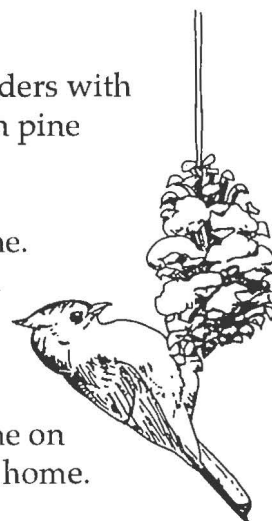
Birds that visit hanging feeders include chickadees, crossbills, American goldfinches, house finches, purple finches, pine siskins, and common redpolls. Fill hanging feeders with sunflower seeds or sunflower hearts.

Tree Trunk Feeders

Station 3

Peanut butter pine cone feeders are easy to make and popular feeders with the birds. Corn cobs picked from farm fields also work well when pine cones are scarce and when working with younger children.

Spread newspapers on the table. Tie a string to the top of the cone. Using a popsicle stick (fingers get messy), smear peanut butter all over the pine cone. After the pine cone is covered in peanut butter, dip it into a bucket of mixed bird seed and roll it around to thoroughly coat the cone with the mixed seeds. It is also helpful to place the pine cone in a bag with the student's name on it. This allows for fewer mix-ups when distributing cones to take home.

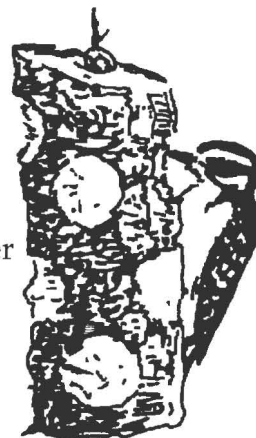




Suet Log

Station 4

Use a dead log approximately four inches in diameter and 16 inches long. Using a 1/2 inch or larger drill bit, drill several holes about 1/2 inches deep along the sides of the log. Safety goggles should be worn, and adult supervision and assistance is best for this activity. On the end of the log, attach a small eye screw to hang from the feeder with wire. Fill the holes with beef suet and hang it from a branch of a tree.



Instead of drilling holes into the log, pop bottle caps may be nailed along the sides of the logs and filled with suet.

Suet Ball

Station 5

Using a hot plate, pan, and spoon, the students can make several types of suet balls. Ask a local grocery store or meat locker to donate beef suet to your class. If the suet is ground first, it will melt better in the pan. Junco jumble is a favorite recipe. *My Recipes Are For the Birds*, written by Irene Cosgrove and illustrated by Ed Cosgrove, contains fun recipes to create unique bird foods. Have the students, with an adult helper, melt the suet and mix the ingredients together. After the mixture is hard, slip the suet mix into an onion bag and hang it on a tree branch.

Junco Jumble

Raw beef suet
1 1/2 cups of cornmeal
1 cup of millet
1 cup of cracked corn
1/2 tablespoon of grape jelly
1 teaspoon of sand or grit



In a pan, melt the beef suet until it is soft. Let it cool slightly. Add other ingredients and mix well. Place the mixture in a pan and refrigerate. When the suet is hard, put it into an onion bag and hang it on the trunk of a tree.

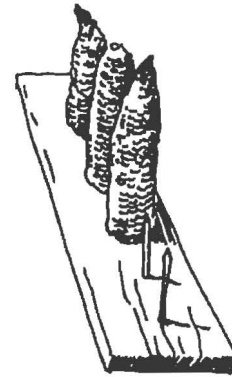
Birds that visit suet feeders include hairy woodpeckers, downy woodpeckers, chickadees, white-breasted nuthatches, and tufted titmice.



Squirrel Feeder

Station 6

Using scrap lumber, nail six-inch-long nails through a wooden plank. Carefully stick ear corn onto the nails, and set the feeder up into a tree or on a fence post. Be sure an adult is present to supervise.



Seed Jar

Station 7

Make a seed jar to help students identify seeds. To make a seed jar, the students will layer a variety of seeds: white millet, red millet, sunflower, cracked corn, and peanut kernels. Use a large jar and layer the different seeds into the jar like a sand painting. After the jar is full, cap the jar. Make sure there is no empty space at the top, to prevent the seeds from mixing when the jar is handled. Use labels to name each layer of seed. It is helpful if the seed is prepackaged in bags that are labeled for the students to use.

Quiet Ideas

Station 8

The quiet station may be set up in another room. Show movies or videos to describe bird feeding. Display pictures of winter birds and play a tape with common Iowa winter bird calls. Bird call tapes are available in most book stores. (See also "Bird Sounds" activity.) The students may draw pictures or they may string cranberries and peanuts on threads to hang on trees for birds. It is helpful if a adult helper has threaded the needles beforehand and is available to help knot the strings.

Follow-up

Evaluate the school grounds (with permission from school administrators) as wildlife habitat, and place the classroom feeders outside the classroom. Students should maintain the feeding stations all winter and spring. Keep a list of birds that visit the feeders. A spring activity might include planting flowers and shrubs in an area that next fall may become a bird feeding station.



Bird Species and Their Food Preferences

Black-oil sunflower

Cardinals, blue jays, chickadees, evening grosbeaks, nuthatches, tufted titmice, purple finches, and downy, hairy, and red-bellied woodpeckers

Sunflower hearts

White-throated sparrows, goldfinches, house finches, cardinals, blue jays, chickadees, evening grosbeaks, nuthatches, tufted titmice, purple finches, and downy, hairy and red-bellied woodpeckers

Peanut hearts

Blue jays, juncos, nuthatches, and downy, hairy, and red-bellied woodpeckers

White proso millet

House sparrows, mourning doves, tree, field and song sparrows, white-throated sparrows, and juncos

Niger thistle

Goldfinches, house finches, and purple finches

Cracked corn

Juncos, mourning doves, blue jays, white-throated sparrows, house sparrows, and grackles

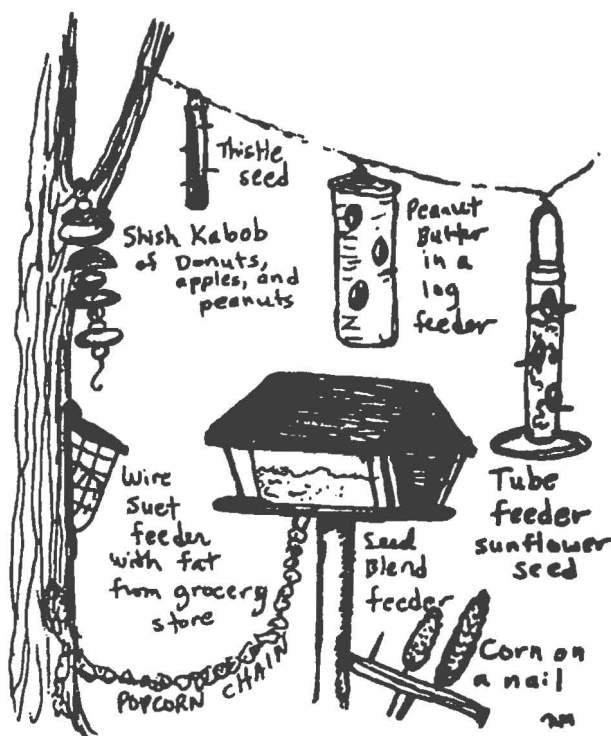
Suet

Downy, hairy, and red-bellied woodpeckers, nuthatches, flickers, and chickadees

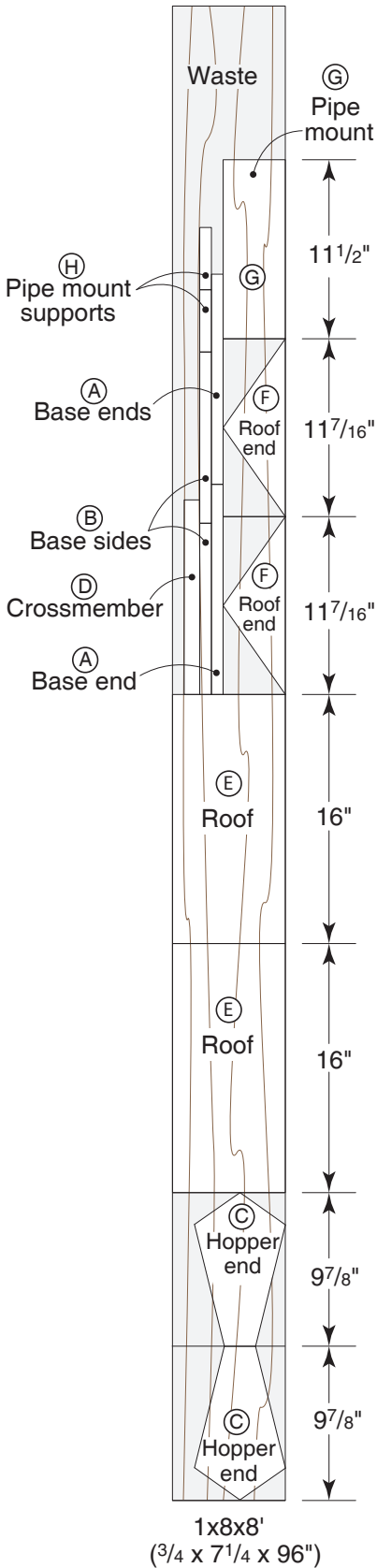
Sugar water

Hummingbirds

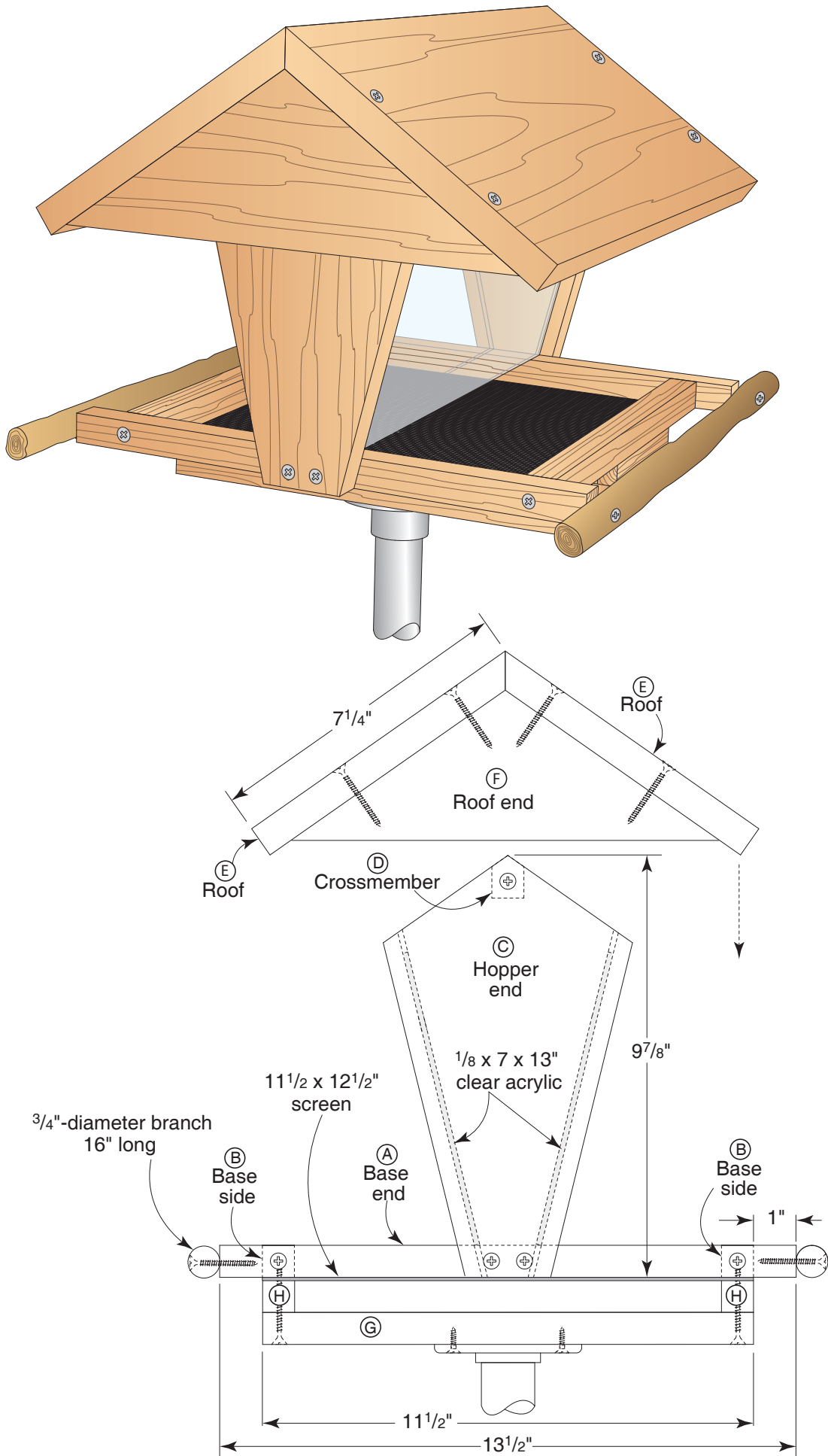
Seeds that are not preferred are milo, hulled oats, rape seed, wheat, and red proso millet.



HOPPER-STYLE BIRD FEEDER PLAN



CUTTING DIAGRAM

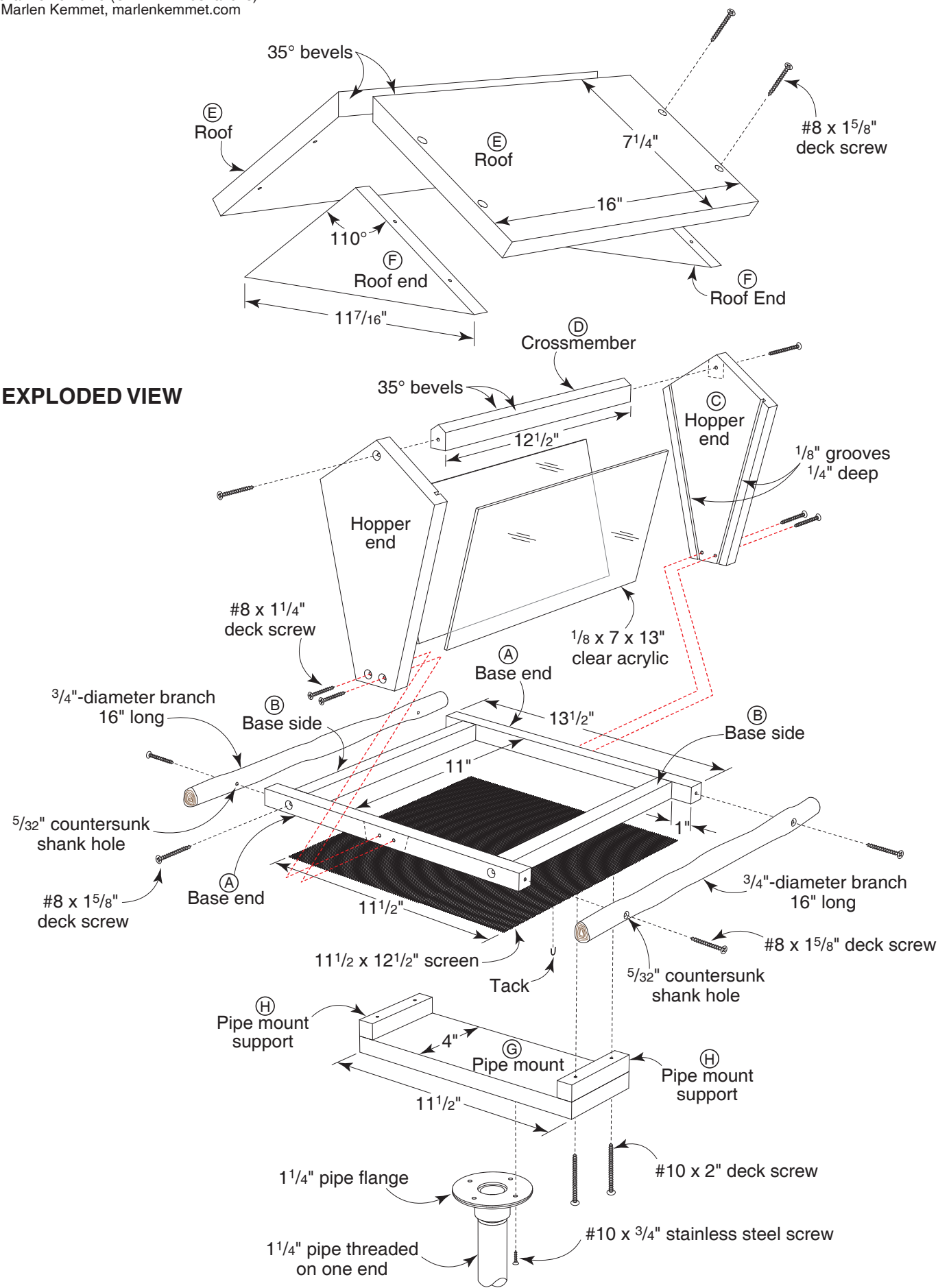


END VIEW

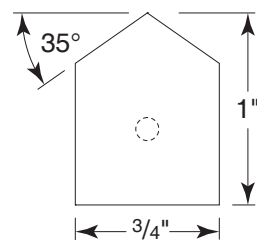
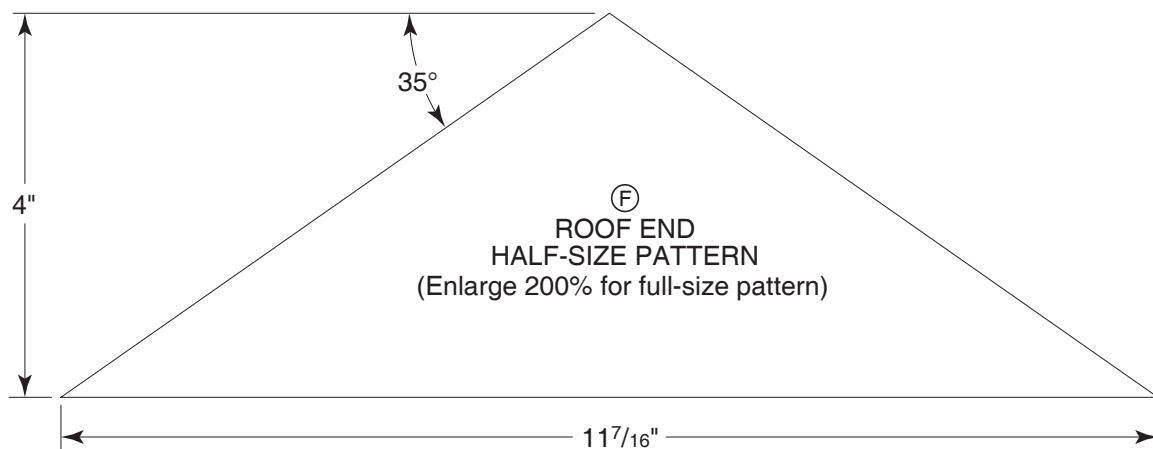
HOPPER-STYLE BIRD FEEDER PLAN

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EXPLODED VIEW



HOPPER-STYLE BIRD FEEDER PLAN



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CROSSMEMBER END VIEW
FULL-SIZE PATTERN

MATERIALS LIST FOR HOPPER-STYLE BIRD FEEDER						
	Parts	Thickness	Width	Length	Material	Pieces
A	base ends	3/4"	3/4"	13 1/2"	C	2
B	base sides	3/4"	3/4"	11"	C	2
C	hopper ends	3/4"	5 13/16"	9 7/8"	C	2
D	crossmember	3/4"	1"	12 1/2"	C	1
E	roof panels	3/4"	7 1/4"	16"	C	2
F	roof ends	3/4"	4"	11 7/16"	C	2
G	pipe mount	3/4"	4"	11 1/2"	C	1
H	pipe mount supports	3/4"	3/4"	4"	C	2
Choice of cedar, redwood, cypress, or painted white pine						

HOPPER-STYLE BIRD FEEDER PLAN

