



A guide to

BEEKEEPING

by Little Giant®



Inside you'll find...

- Benefits of bees
- The bee basics
- What you can do to help save bees
- Guide to honey

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BACKYARD BEEKEEPING is one of the hottest trends sweeping the nation!

With more and more information coming out about the threats our honeybees are facing, between Colony Collapse Disorder, disease, pesticides, and a critical loss of foraging habitat, people all across the country are looking to do their part to help save the bees.

Save the Bees!



They're becoming beekeepers!

Backyard beekeeping is more popular than it ever has been, and interest in beekeeping products is skyrocketing. And with more and more cities across the nation relaxing regulations on keeping bees in urban areas, the trend continues to grow!

In fact, you can find hives deep in the country, in backyards in the suburbs and even in the middle of a city, up on rooftop gardens.



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So WHY keep bees?

Besides producing sweet, golden honey, bees are actually very important to our world. Bees have a big job...they're responsible for pollinating the crops our global food source depends on.

As they buzz from flower to flower, bees pollinate roughly 71 of the 100 fruit, vegetable, nut, and other crop plant species that provide 90% of the world's food. One out of every three bites of food we eat was pollinated by bees.



Without bees, we wouldn't have:



Apples	Mangos	Pears
Kiwi Fruit	Plums	Peaches
Celery	Almonds	Coconut
		Raspberries & Blackberries

Green Beans	Avocados	Watermelon
Strawberries	Cherries	Vanilla
Coffee	Cranberries	Cocoa
Cotton	Macadamia Nuts	Lemons & Limes
Cucumber	Cantaloupe	Tomatoes
Walnuts	Broccoli & Cauliflower	Onions
		Grapes
		Cabbages
		Cashews
		Carrots
		Peppers

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The BEE BASICS

- It's been said that caring for bees takes less time than caring for a pet dog, and a little more time than caring for a cat
- A honey bee visits 50 to 100 flowers during a collection trip, and they travel up to 2 miles on average looking for food
- Honey bees communicate with one another by dancing
- Worker bees will die if they sting. Drones have no stingers
- A single hive can produce up to 100 lbs. of honey in a year

Bees are self-sufficient - they have a complex social hierarchy in their hive and each bee has a job:



Queen: responsible for laying all the eggs in the colony. She is easily recognized by her long body with an abdomen that extends beyond her wings



Workers: these female bees perform various tasks in the hive like cell cleaning, larvae feeding, comb construction, and as they get older, they're the ones out foraging and harvesting pollen and nectar



Drones: these male bees are responsible for going out of the hive and mating with another queen bee

What you can do to HELP SAVE THE BEES

Plant pollinator-friendly flowers

- Plant a diverse range of flowers and plants that bloom at different times throughout the year for a constant food source



Avoid pesticides in your yard and garden, **and avoid flowers treated with neonicotinoids**, which have been linked to Colony Collapse Disorder



Offer habitat

Not all bees live in hives. Some create a home underground or in cavities found in old trees. Leave some soil undisturbed or offer a "bee house"



Bees need water!

Leave a shallow pan of water with rocks, a brick or tennis ball in it that is not submerged. They need something to land on to drink so they don't drown

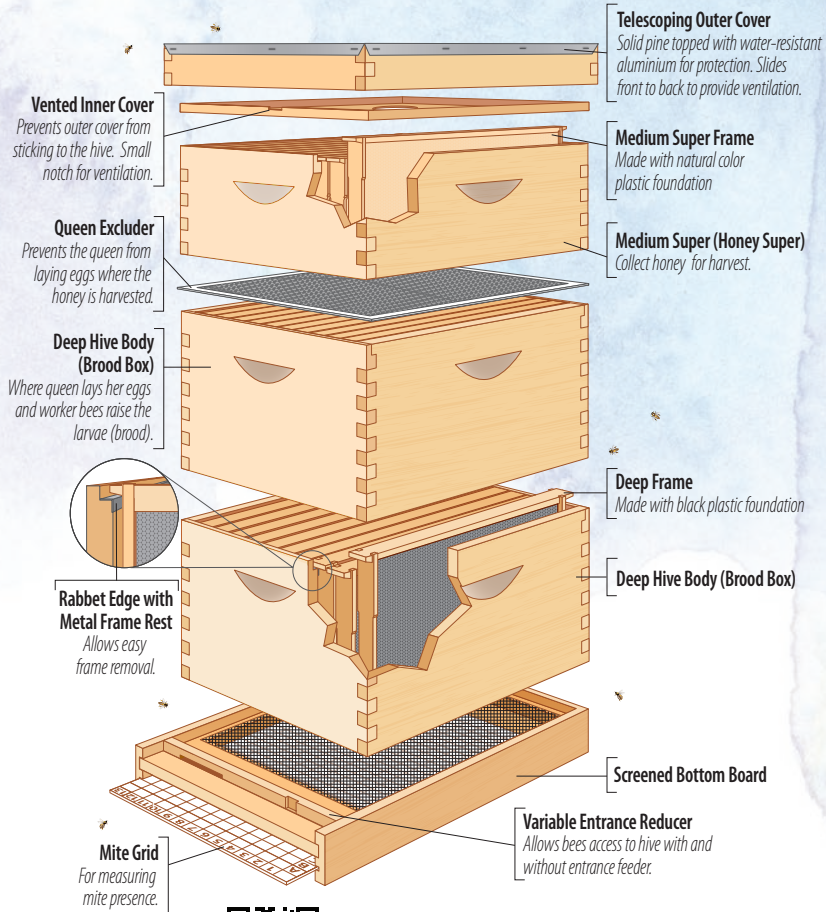


Contact your local lawmakers to have them change city ordinances to allow residents to keep bees in their yard





All About the Hive



Snap this code with your smartphone for a closer look at a Little Giant® hive



Kelley Beekeeping

SERVING THE BEEKEEPER SINCE 1924

To ensure we're offering the best, most complete line of beekeeping products, we've partnered with Kelley Beekeeping Company. In September 2014, The Walter T. Kelley Company, LLC of Clarkson, Kentucky, which is now known as Kelley Beekeeping Company, joined our family of companies under Frandsen Corporation.

Kelley Beekeeping brings over **90 years of experience** in beekeeping and we're thrilled to have this great company join our ranks as a "sister company" to Miller Manufacturing.

And we're ready to help in any way - we can offer the training and education you need, plus a wide range of marketing materials and a fully staffed customer service department.



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CHEWY SNACK BARS

Great snack for kids! Yields 2 dozen

Ingredients

- 3 cups - miniature marshmallows
- 1/2 cup - honey
- 1/3 cup - butter or margarine
- 1/4 cup - peanut butter
- 2 teaspoons - vanilla
- 1/4 teaspoon - salt
- 2 cups - rolled oats
- 4 cups - crispy rice cereal
- 1/2 cup - flaked coconut
- 1/4 cup - peanuts



Directions

Combine marshmallows, honey, butter, peanut butter, vanilla and salt together in a medium saucepan. Heat mixture over low heat, stirring constantly. In a 13x9x2-inch baking pan, combine oats, rice cereal, coconut and peanuts. Pour honey mixture over dry ingredients. Mix until thoroughly coated. Pack mixture firmly into the pan. Cool and cut into 24 bars.



How to substitute honey for sugar in baking

For every cup of sugar a recipe calls for, replace it with 3/4 cup of honey. For best results, add 1/4 teaspoon of baking soda and reduce another liquid in your recipe by 1/4 cup. Also, reduce the oven temperature by 25 degrees.

Additional Resources

Websites

- **University of Minnesota Bee Lab:**
<http://www.beelab.umn.edu/>
- **Oregon State Bee Lab:**
<http://honeybeelab.oregonstate.edu>
- **Bee-friendly Local Plants:**
<http://www.beelab.umn.edu/wild-bees/plants-mn-bees>
- **Native Plants Database:**
<http://www.wildflower.org/plants/>
- **Xerces Society for Invertebrate Conservation:**
<http://www.xerces.org/pollinator-conservation/>
- **Pollinator Partnership Gardening Resources:**
<http://www.pollinator.org/gardens.htm>
- **Find your local beekeepers' Association:**
<http://www.beeeculture.com/content/StateApiaristDirectory>



Books Available from Little Giant®

- *Beekeeping For Dummies* by Howland Blackiston
- *Homegrown Honeybees: An Absolute Beginner's Guide to Beekeeping Your First Year* by Alethea Morrison
- *The Backyard Beekeeper* by Kim Flottum

Bee-friendly Plants

Not ready to don a bee suit? You can still help the bees by planting these varieties!

- | | | |
|-----------------|---------------------|-------------|
| • Rosemary | • Beebalm | • Asters |
| • Wild Geranium | • Oregano | • Zinnias |
| • Poppies | • Purple Coneflower | • Marigolds |
| • Clover | • Sedum | • Milkweed |
| • Sunflowers | • Yellow Coneflower | |





GRILLED HONEY-GLAZED PORK TENDERLOIN WITH ONIONS

Serves 4-6

Ingredients

- 1/2 cup - Buckwheat honey
- 1/4 cup - extra-virgin olive oil
- 1/4 cup - cider vinegar
- 1 Tablespoon - minced garlic
- 2 teaspoons - Herbes De Provence
- 1 teaspoon - salt
- 1/2 teaspoon - pepper
- 2 lbs. - pork tenderloin
- 3 medium - onions

Directions

Combine honey, oil, vinegar, garlic, herbs, salt and pepper in a shallow pan. Add pork and turn to coat it well. Cover and refrigerate 2 to 4 hours. Turn pork occasionally. Remove pan from refrigerator 30 minutes before grilling. Prepare grill for a medium-hot fire with an indirect heat area. Slice onions in rounds 1/2 to 3/4-inch thick. Remove pork from marinade and boil marinade 1 minute. Taste and add more salt if needed. Grill pork over indirect heat, covered, until the middle is about 145°F, 25 to 30 minutes. Brush pork generously with the marinade; turn every 10 minutes to evenly cook. Put onions over direct heat and brush with marinade. Turn frequently, brushing with marinade, until well marked and soft, 8 to 12 minutes. Move onions off direct heat to finish cooking. Let pork rest 5 minutes before slicing into 3/4-inch thick slices. Serve with grilled onions.



ALMOND CHICKEN WITH HONEY LIME SAUCE

Serves 4

Ingredients

- 2 whole - boneless, skinless chicken breasts, halved
- 2 Tablespoons - flour
- 1 - egg
- 2 teaspoons - soy sauce
- 1/2 teaspoon - black pepper
- 3/4 cup - finely ground almonds
- 3/4 cup - corn flake crumbs, crushed
- 1 Tablespoon - Vegetable oil
- 1/2 cup - apple juice
- juice of 1 lime
- 2 teaspoons - cornstarch
- 1/4 cup - honey

Directions

Place chicken breasts between two sheets of plastic wrap or waxed paper. Flatten chicken to 1/2 inch thickness. Dip chicken in flour and shake off excess. Set aside. Combine the egg, soy sauce and pepper in a shallow dish; set aside. In another shallow dish combine ground almonds and corn flake crumbs. Dip chicken in egg mixture to coat and in almond mixture, pressing so the coating adheres to both sides. Brown chicken on both sides in oil in a non-stick skillet over medium-high heat, until chicken is no longer pink and juices run clear when cut with a knife. Remove chicken; set aside. Combine apple juice, lime juice and cornstarch. Add mixture to skillet. Add honey. Cook and stir until thickened and bubbly. Serve chicken with sauce.





OTHER USES FOR HONEY

Did you know? Honey has a wide variety of uses beyond just a sweetener!



Add it to most drinks for an instant energy boost

Use to soften your skin

Try a tablespoon of honey before your next workout for boost in performance

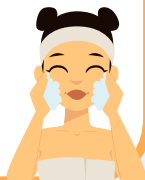


Reduce seasonal allergies – eat a couple teaspoons of local raw honey each day. The small amounts of pollen in the honey has been said to help build an immunity to bothersome pollen



Soothe sore throats and a cough with honey and lemon juice

Use it as a face wash – honey is a natural moisturizer with antimicrobial properties. Great for acne-prone skin! Try mixing a dollop of honey and two tablespoons of warm water and massaging the mixture into your skin



Honey can be used as an antiseptic on cuts, scrapes and burns



Condition your hair – in the shower, after you wash your hair, coat the ends with a bit of honey and let sit before rinsing for shiny, beautiful hair

Kick a hangover – because it's loaded with fructose, honey can help speed up the metabolism of alcohol

HONEY WHEAT BREAD

Prep – 25 minutes, Cook – 35 minutes, Ready in 2 hours, 30 min

Ingredients

- 1 (.25 ounce) package rapid rise yeast
- 1 teaspoon white sugar
- 1/2 cup warm water (110 degrees F/45 degrees C)
- 1 (12 fluid ounce) can evaporated milk
- 1/4 cup water
- 1/4 cup melted shortening
- 1/4 cup honey
- 2 teaspoons salt
- 2 cups whole wheat flour
- 3 cups bread flour
- 2 tablespoons butter



Directions

1. Dissolve yeast and sugar in 1/2 cup warm water.
2. Combine milk, 1/4 cup water, shortening, honey, salt and wheat flour in food processor or bowl. Mix in yeast mixture, and let rest 15 minutes. Add bread flour, and process until dough forms a ball. Knead dough by processing an additional 80 seconds in food processor, or mix and knead by hand 10 minutes. Place the dough in a buttered bowl, and turn to coat. Cover the bowl with plastic wrap. Let dough rise for 45 minutes, or until almost doubled.
3. Punch down, and divide dough in half. Roll out each half, and pound out the bubbles. Form into loaves, and place in buttered 9x5 inch bread pans. Butter the tops of the dough, and cover loosely with plastic wrap. Let rise in a warm area until doubled; second rise should take about 30 minutes.
4. Place a small pan of water on the bottom shelf of the oven. Preheat oven to 375 degrees F (190 degrees C).
5. Bake for 25 to 35 minutes, or until tops are dark golden brown.



HOW TO MAKE CANDY CAKES FOR YOUR BEES

In the winter, bees generally eat their honey stores to survive the season when there are no plants or flowers available, and venturing out of the hive could be a deadly proposition. During warmer winters, bees will be more active and consume more of their honey stores, and may need supplemental feeding. Candy cakes are an easy way to offer an additional food source for your bees.

Ingredients:

10 lbs. granulated sugar • 1 quart water • 1 tablespoon vinegar or lemon juice

DIRECTIONS

Step 1:

Prepare molds in advance. Paper plates lightly sprayed with canola oil work great. Lay them out on a flat, heat-proof surface.

Step 2: Measure the water and the vinegar (or lemon juice) into a large pot and bring to a slow simmer.

Step 3: Pour in the sugar, stirring until it dissolves completely. Keep stirring until you feel no grit in the water. If the sugar won't dissolve, add more water, little by little, until all the crystals disappear.

Step 4: Once the sugar is completely dissolved, you can gently turn up the heat to medium high and stop stirring (since the sugar is completely dissolved, you won't need to worry about anything sinking to the bottom and burning). Insert your candy thermometer.

Step 5: Boil the mixture until the thermometer reads 250 degrees F, then remove the pot from the heat. If you wish, you can test the candy at this point. Place a drop of syrup into a glass of cool water. Reach in and get the drop. The drop of candy should hold its shape, but you can flatten it between your fingers.

Step 6: Carefully pour the mixture into 8 or 10 paper plates.

Step 7: Allow the candy cakes to cool completely and then pop them out and store between layers of wax paper. Candy cakes can be stored for long periods when kept away from insects, mice, and moisture.

Step 8: Place candy cakes directly on top of frames for bees to eat over the winter.



**Recipe adapted from Honeybeesuite.com*

Amazing HONEY FACTS

The honey bee has been around for millions of years, and beekeeping dates back 4,500 years



To make 1 pound of honey, bees may need to fly 50,000 miles

Honey is the only food that includes all the substances necessary to sustain life, including enzymes, vitamins, minerals, and water



An average worker bee will only produce 1/12 of a teaspoon of honey in her lifetime



There are over 300 types of honey in the United States



Bees are the only insect that produces food eaten by man



Honey never expires and never goes bad





Time to **HARVEST** the Honey

In most cases, you won't be able to harvest honey until your second season of beekeeping. The first season, your bees will need all their honey to get them through the winter. But the next season, they should be well established and able to provide a surplus that you can harvest.

Here are a few tools of the trade when it comes to honey extraction:



Honey Bucket



Honey Filter



Stainless Steel Extractor



Honey Bear Bottle



Honey Gate



Uncapping Scratcher Fork



Electric Uncapping Knife



Honey Strainer



How to **EXTRACT YOUR HONEY**

Step 1

Gently brush any bees off the honey supers with a soft bee brush. Next, remove the honey super from the hive and bring it inside, where the bees can't get to it

Step 2

Once inside, one by one, remove each frame of capped honey from the super

Step 3

Use an uncapping knife to remove the wax cappings

Step 4

Use an uncapping scratcher fork to remove any remaining cappings, or those missed by your uncapping knife

Step 5

When you've uncapped both sides of your frame, place it vertically in your extractor and begin to crank. Make sure you have your bucket with honey filter/strainer set up below your extractor's honey gate

Step 6

After a few minutes of cranking, you can check your frames and one side should be clear of honey. Remove and flip the frame to get honey extracted from the other side of the frame.

Step 7

The honey will flow out of your extractor and into your strainer, then into the bucket below. And it's ready to be bottled!



To see a step-by-step video on extracting honey, snap this code with your smartphone



A guide to

HONEY

by Little Giant®



Inside you'll find...

- How to extract honey
- Delicious honey recipes
- Honey extraction tools

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