



the
UPPER FELL'S POINT
Improvement Association/Asociación de Mejoramiento

upperfellspoint.org | PO Box 38315, Baltimore MD 21231



Save Our Bees – And the Fruits and Vegetables!



Did you know that more than 140 fruits and vegetables depend on hardworking honey bees for pollination? Bees are responsible for roughly ONE OUT OF EVERY THREE BITES of food that we consume!

2016 was another year of heavy losses for beekeepers in Maryland – a loss of 56% (and 61% in 2015)! Some of the main reasons for these losses was a high increase in pesticide use and a decrease in natural forage. (Pesticide exposure impairs their immune system, making them more susceptible to parasites.) We can only assume that these same issues also are affecting our wild native bees too. But there are steps that you can do to help the honey bees - if we lose our bees, we lose more than honey!

1. Honey bees usually travel within a 1-3-mile radius from their hive. Be sure to plant flower-rich trees and plants (vegetables and herbs) and avoid no-pollen flowering plants such as Impatiens.
 - a. Select single flowers - not double flowers (double flowers produce less nectar) and avoid hybridized plants (e.g., were bred to seed and thus produce little pollen). Flat or shallow blossoms are bees' favorites (such as asters, coneflowers, sunflowers and zinnias).
 - b. Plant natives as they have a higher nectar and pollen content (You can purchase natives through Baltimore's Herring Run Nursery - <https://www.bluewaterbaltimore.org/herring-run-nursery/>.)
 - c. Honey bees' favorite colors are blue, blue-violet and yellow – they cannot see red although they can see UV patterns. (Other beneficials such as butterflies like red, yellow, orange, pink and purple. Bats are attracted to large, white or pale night-blooming flowers with strong, fruity scents. Hummingbirds love vivid colors, such as red, purple/red, orange and pink tubular-shaped flowers.)
 - d. Plan for at least three different types of blooms over the seasons and plant 3-5 of the same type flower in a group (circle) so the nectar is more visible (they have poor vision) and the bees don't have to exert much energy to get to it. The best honey bee plants provide a good supply of sugary nectar and protein-rich pollen.

Here are a few examples but refer to the document multi-season plants for pollinators for a list of all of the best nectar/pollen plants/trees:

- i. Spring – Bluebells, Crocus and Snowdrops. They also like the flowers of chives, peas and strawberries. (Note: Impatiens, petunias and begonias provide little nectar value.)
 - ii. Summer – Allium, Coneflower (Echinacea (Pallida or Purpurea-purple coneflower)), Geranium (Johnson Blue-Cranesbill), Hasta fortunei (Plantain lily) and Salvia (superba). They also love the flowers of beans, cucumber, raspberry and squash.
 - iii. Fall – Aster, Sedum (stonecrop), Shasta Daisy and Common Zinnias. Also, Sunflowers (Helianthus annuus-Dwarf Little Becka, Big Smile, and Lemon Queen are the best and Lemon Queen and Big Smile grow well in containers. Do not plant red and be sure to use the annual variety).
 - iv. Good herbal plants - basil, chives, dill, lavender, rosemary, sage, and thyme. (Plant extra so there are some for you and the bees.)
2. Avoid using pesticides and fertilizers. There are usually just as many good insects (if not more) than bad at work in your garden-when you spray, you wipe out good insects with the bad. Planting natives will help to reduce pest problems by attracting beneficials and heirloom varieties have more nectar than hybrids. Do not purchase plants marked “protected” as they are usually chemically treated. (Note: Some organic approved insecticides like pyrethrins and rotenone are harmful to pollinators.)
- a. Allow some flowering weeds such as dandelions or clover to grow between rows and plant small flowering plants. Basil, marigold, rosemary, sage, tansy and thyme are good pest-repellent plants too.
 - b. Coffee grounds and crushed eggshells sprinkled at the base of plants deter slugs and snails, as well as add nitrogen and calcium to your soil which is needed by many plants such as spinach and tomatoes.
 - c. Interplant trap crops (such as radish, wormwood and nasturtiums) or interplant crops to provide shade since most pests like full sun.
 - d. To avoid powdery mildew, stake your plants on a trellis so there is more ventilation and prune out affected leaves. Also, water from below and not directly on the leaves. (Powdery mildew is a fungal disease and will spread to other plants; it especially likes cucumber.)

- e. Garlic spray is a good option for pest control. *(Garlic spray recipe: Add 2 cloves minced garlic to one tablespoon of olive oil to 1 gallon of water. Let the mixture sit and steep for at least 24 hours (48 hours is best). Strain out the garlic and add a couple of drops of natural biodegradable dish soap to the gallon; fill spray bottle and spray plants. It is best to spray the garlic mixture in the evening and not during the hot sun – the olive oil content can burn the leaves if hit by the sun when first applied. Note: Your plants will not taste like garlic.)*
 - f. Straw mulch provides sheltered hiding places for ground dwelling predators and keeps the moisture in the soil. (Weed paper or bark mulch robs the soil of nitrogen.)
3. Purchase seeds not coated with neonic. (This insecticide spreads throughout the entire plant – from leaves to pollen and nectar – and affects the central nervous system of insects, resulting in paralysis and death. The best type are organic seeds. (Note: Meyer Seed Co. of Baltimore sells organic seeds too-600 S Caroline St.)
 4. Make the most of the space that you have available. You only need a small plot of land (it can even be a window container or rooftop planter).
 5. Host having a bee swarm trap box in your backyard. It should be in an out of the way place with easy access. The box entices swarms traveling around the area looking for a good home (usually in the spring). The box is a hive box that can be closed-up quickly and moved if a swarm were to occupy it (the box is about the size of two large shoe boxes, is free, no permits are needed and would be picked up by a local beekeeper). If you would like to host a swarm box, contact Bill Castro at Bee Friendly Apiary at billiam1969@beefriendlyapiary.com or <http://beefriendlyapiary.com/>. (We will have at least one at the community garden this year.)

(Data above from Baltimore's Bee Friendly Apiary, Bee Informed Partnership and Sierra Club.)

Below is a bee quiz - see how much you know!

Bee Quiz

How much do you know about bees – take the quiz and find out! (Answers at the end – no peeking!)

- How many eyes does a honey bee have?
 - 6
 - 5
 - 8
 - 12
- How many legs do honey bees have?
 - 2
 - 4
 - 6
 - 8
- How many wings do honey bees have?
 - 2
 - 4
 - 6
 - 8
- How many honey bees could you find in a healthy colony at peak time?
 - 5,000-6,000
 - 1 million
 - 50,000-60,000
 - 1,000
- There are at least how many species of native bees in Maryland?
 - 100
 - 200
 - 400
 - 1,000
- Which flower provides the least amount of nectar and pollen?
 - Impatiens
 - Ivy
 - Brambles (i.e., prickly shrub like a blackberry bush)
 - Dead-nettle

- The honey bee colony is a super-efficient organization consisting of what?
 - Three queens, knights and soldiers
 - Queen, beekeeper and hive
 - Queen, workers and drones
 - Honey bees and bumble bees
- What is the most significant reason that all species of bees are important?
 - Make honey
 - Pollinate plants which provide humans and wildlife with food
 - Pretty to look at
 - If no bees, companies selling beehives and empty jars of honey would go out of business
- For how long can a queen honey bee live (if not killed by a predator or catch a disease)?
 - 3-4 yrs.
 - 6 wks.
 - 24-36 wks.
 - Up to 10 yrs.
- How many types of bees are in the whole world?
 - 25,000 known species with more to discover
 - 15,000 known species with more to discover
 - 100,000 species already discovered
 - Around 100 species
- Which solitary bee cuts neat little holes in the leaves of plants?
 - Chainsaw bee
 - Leafcutter bee
 - Hole cutting bee
 - Plant cutting bee
- What do honey bees collect from flowers?
 - Honey and pollen
 - Nectar and other insects
 - Nectar and pollen
 - Nectar and seeds

- How much honey can a single honey bee make in its lifetime?
 - One twelfth teaspoon
 - One tablespoon
 - 1/8 tablespoon
 - About a jar
- Which honey bee can sting you?
 - Female only
 - Male only
 - Male and female
 - Neither male or female
- What sex are drones?
 - Female
 - Male
 - Both male and female
 - Neither male or female
- Which color cannot be seen by honey bees?
 - Blue
 - Blue-violet
 - Blue-green
 - Red
- What do honey bees produce?
 - Honey
 - Honey, pollen and nectar
 - Honey and bees wax
 - Honey, bees wax, bee venom and royal jelly
- What is honey?
 - A sweet substance made by honey bees
 - A sweet substance made from berries
 - A sweet substance made from flowers
 - A sweet substance made from berries and flowers

(Answers on next pages)

Bee Quiz – Answers

- Honey bees have 5 eyes - (3 simple eyes on top of their head and 2 large compound eyes).
- Honey bees have 6 legs – they have 3 pairs on their 3 body parts (head, thorax and abdomen). The rear pair have stiff hairs to store pollen when they are flying from flower to flower and the front pair have slots for cleaning their antenna.
- Bees have 4 wings - the front and rear wings hook together to form one big pair of wings and unhook for easy folding when not flying.
- 5,000-6,000 bees can be found in a healthy colony at peak season.
- There are at least 400 native species of bees in Maryland.
- The flower that provides the least amount of nectar and pollen are Impatiens.
- The honey bee colony consists of the queen, workers and drones.
- The most significant reason that bees are important is because they pollinate plants, providing food for humans and wildlife.
- A queen honey bee can live for 3-4 yrs. if not killed by a predator or catch a disease and lives the longest of all bees. She lays about 1,000 eggs/day. (Some predators are toads, spiders, lizards, mice, raccoons, and possums.) Drones live about 4-6 months and workers about 6-7 weeks in the spring or 4-6 months in the fall.
- There are 25,000 known species of bees in the world with more to discover.
- The leaf cutter bee is a solitary bee that cuts neat little circular holes in the leaves of plants (it does not harm the plant). If you see jagged cuts or rips, then that is not from leaf cutter bees.
- Bees collect nectar and pollen from flowers. Bees can see ultra-violet light making it easier to find nectar.
- A single honey bee can make one-twelfth teaspoon of honey in its entire life time.
- Only female honey bees (worker bees) can sting you and they will die if they do. This is because they have barbed stingers, causing the stinger to get lodged in the skin of mammals (including humans). This is fatal to the honey bee when they try to pull away from the victim. However, honey bees can sting insect predators repeatedly. Male honey bees (drones) cannot sting although they may attempt to move their tail to frighten the disturber. Queen honey bees can sting repeatedly, but queens rarely venture out of hives, and would be more likely to use their stingers against rival queens. (Bumblebees have a smooth stinger, and can sting repeatedly, but bumblebees are rarely aggressive.)

- Drone honey bees are males. They do not gather nectar and pollen so their primary role is to mate with a fertile queen. After mating they die quickly.
- Honeybees cannot see red although they see UV patterns. Their favorite colors are blue, blue-green, blue-violet, violet, yellow (although it appears blue to bees) and they prefer flat or single blossoms such as asters, daisies, sunflowers and zinnias.
- Honey bees produce honey, bees wax and royal jelly (pollen) as well as bee venom.
- Honey is an edible sweet substance made by bees from nectar gathered from flowers. They gather the nectar and store it in wax cells. When they regurgitate the nectar into a cell, it's mixed with bee enzyme and fanned by bees so it becomes concentrated. They cover the cell with a layer of wax and cap the honey in wax combs. It is their winter stores to eat in the colder months. (And did you know that honey does not spoil because microorganisms do not grow in it.)

Quiz from www.buzaboutbees.net
2/28/2017