

Bee-lovers' Class 2025



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Erik, Karis, Melissa and Vasiliy Osadchuck - Family



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Bees' contribution to Humanity

Is it only about the honey?

- ◉ Cross-Pollination increases fruit, seed and veggie production. 70% of grocery isle made by bees😊
- ◉ Almonds depend on honeybee pollination 100%
- ◉ Seed farmers rely on honeybees
- ◉ Healing emotionally: connecting with God

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Life of a Bee Colony



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View from the Inside



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Just Another Typical “Bee-Day”

- Workers walk on capped cocoon cells keeping them warm
- Top right - glistening honey filled cells
- Bottom right – a bee unloading fresh pollen and packing it in a cell with her head. Notice the colorful pollen filled cells around her.
- Bottom left – three grayish white cells with baby larvae almost ready to be sealed and form a cocoon



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Bringing in the propolis



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Why honey bees collect propolis

Although we say honey bees collect propolis, what they actually collect are the materials to make propolis. The substances the bees bring home are sap-like resins exuded from flower and leaf buds. For the plants, these resins form a defensive coating, protecting delicate plant parts from pathogens, fungi, and insects. Foraging honey bees scrape it off plants and carry it in the pollen sacks on their hind legs. It often looks like a load of pollen except that it glistens in the sunlight and is usually a rich chestnut brown. Once home, the bees mix the resins with saliva and beeswax. The final product is what we know as propolis.

The color however varies with the source.

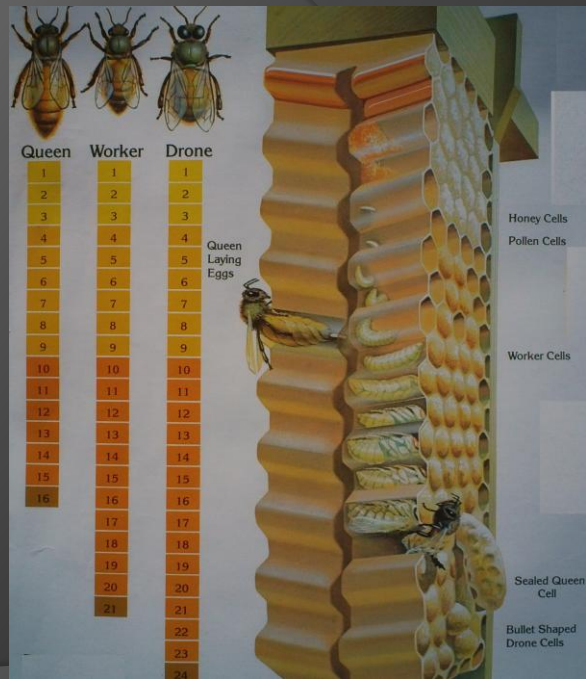
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From Egg To "Birth"

Chart legend

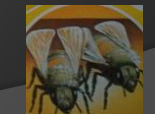
Numbers represent
Days of development

	Period As Egg
	Period As Larvae Feeding
	Larvae Spins Cocoon and Transforms Under a Closed Cap
	Bee Emerges



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Days 1-21 Job Assignments (Hive Bee)

1	Cleaning Cells and Keeping Brood Warm	
2		
3	Feeding Older Larvae	
4		
5		
6	Feeding Younger Larvae	
7		
8		
9		
10		
11		
12	Producing Wax Building Combs	
13	Transporting Food Within the Hive	
14		
15		
16		
17		
18	Guarding Hive Entrance	
19		
20		
21		

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Days 22-35 Job Assignments (Field Bee)

22	Visiting Flowers Pollenating Them and Collecting Pollen, Nectar, Propolis, and Water	
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35-45	End of Life	



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Bee Breeds

◉ Carniolian



◉ Caucasian



◉ German



◉ Italian



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Nectar/pollen producing plants

- Plums



- Wild Mustard



- Blackberries



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Nectar/pollen producing plants

- Mimosa



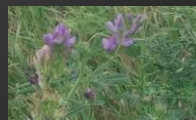
- Sunflower



- Sweet clover



- Alfalfa



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Places to keep bees

◎ Countryside



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Places to keep bees

◎ City



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Verities of Honey

- ◉ Darker honey richer in minerals; strong taste
- ◉ Lighter honey has pleasant taste; fewer minerals



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Honey Varieties

Honey starts off as nectar. Honeybees gather nectar from different plant species & will continue to forage on the same plant species with the highest sugar values until the bloom season ends for that plant. Monofloral honeys are mostly derived from the nectar of one plant species. Polyfloral honey is derived from many plant sources.

To help separate honey varieties, beekeepers place empty combs in the hives for honeybees to store honey according to plants' bloom times for their region. They remove the honey filled comb before the next bloom time of another plant.

There are more than 300 different types of honey in the United States. The flavor & color of honey depends on the floral sources' nectar which contains varying amounts of fructose, glucose, amino & organic acids. Honey color & flavor of one variety can differ from region to region due to different climate & soil conditions. The colors of honey can range from nearly colorless water-white to very dark amber.

Alfalfa Alfalfa is produced throughout Canada & the United States. It is a light, delicate honey with a mild flavor. Its color is water-white to light amber.	Apple Apple honey has a hint of apple aroma. It has a very pleasing, sweet taste. Its color can be water-white to light amber with a slight green tint.	Avocado Avocado honey is mostly produced in California. It is dark in color with a rich, buttery taste.	Basswood Also called Linden honey, Basswood is mostly produced in the eastern United States. It has a zesty flavor & is medium to dark amber in color.	Blueberry Blueberry honey is produced mostly in New England & Michigan. It is typically light amber in color with a full, well-rounded flavor.	Buckwheat Buckwheat honey is produced mostly in areas with cool climates & well-drained soil. It has a strong taste & is dark brown in color.
Clover Red, Alsike, White & Yellow Sweet Clovers are most important for honey production. Depending on the location & type of clover source, it varies in color from water-white to medium amber.	Cucurbit Mostly native to Australia, however, some species grow in other tropical & temperate climates. The honey is mildly sweet & some varieties have a slight menthol flavor. It is usually dark in color.	Honey Varieties Honey starts off as nectar. Honeybees gather nectar from different plant species & will continue to forage on the same plant species with the highest sugar values until the bloom season ends for that plant. Monofloral honeys are mostly derived from the nectar of one plant species. Polyfloral honey is derived from many plant sources. To help separate honey varieties, beekeepers place empty combs in the hives for honeybees to store honey according to plants' bloom times for their region. They remove the honey filled comb before the next bloom time of another plant. There are more than 300 different types of honey in the United States. The flavor & color of honey depends on the floral sources' nectar which contains varying amounts of fructose, glucose, amino & organic acids. Honey color & flavor of one variety can differ from region to region due to different climate & soil conditions. The colors of honey can range from nearly colorless water-white to very dark amber.		Goldenrod Goldenrod honey has a bold taste & can crystallize quickly. It is produced throughout Canada & the United States. It is light to medium amber in color.	Fireweed Fireweed honey is produced mainly from the northwest United States & Canada. It has a smooth, buttery taste & is medium to dark amber in color.
Igual Also called scaccia honey, it comes from black boud trees. It has a mild, floral flavor & is water-white to light amber in color.	Orange Blossom Orange Blossom honey is often a mixture of citrus sources. It is usually light in color & has a mild citrus flavor.			Sage Sage honey is mostly produced in California. It has a light color, & a mild, sweet flavor.	Saw Palmetto Primarily produced in Florida, it has a slight citrus & herbal flavor with woody overtones. Its color is medium amber.
Sourwood Sourwood is produced in the Appalachian Mountains from southern Pennsylvania to northern Georgia. It has a sweet, buttery taste & is light to medium amber in color.	Sunflower Sunflower honey has a floral aroma & can crystallize easily. It has a light to medium amber color.	Thistle The most popular of the thistle species for this honey is star thistle. Thistle honey has a mild & pleasing floral taste & is water-white to light amber in color.	Tulip Poplar Tulip Poplar honey is produced from southern New England to the southeast United States. It is dark amber in color with a strong flavor.	Tupelo Tupelo honey is produced in the southeast United States. It usually has a light golden amber color with a slight greenish hue. It has a mild but distinctive flavor.	Wildflower Wildflower honey is a polyfloral honey & is derived from many plant sources. It usually has a sweet, floral flavor. The color may range from light to medium amber.

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