Resilience in Diversity – Toward Saving the Honeybee

"We depend on the honeybee. Without it, life as we know it would never exist. Beyond creating honey, wax and propolis, this species pollinates more than ¾ of our agricultural food."

Banishing the Bees

Despite its natural survival skills, the self-supporting honeybee has begun to die off in droves. As the honeybee suffers from what has been called "colony collapse disorder," we are being faced with a critical situation. Gunther Hauk, president of the board of the Spikenard Farm, a non-profit biodynamic agricultural center and bee sanctuary in central Illinois, estimates that during the last 10 years over 60% of the American honeybee populations have died.

"No other pollinator, including other types of bees, can pollinate in such great numbers," declares Hauk. Beyond its pollination work, the honeybee does something much more basic: it works to invigorate all plant life. "The honeybee's poison, made up of formic acid, one of the building blocks of life, goes into nature in homeopathic form, explains Hauk. Through pollination, it spreads its formic acid." While other animals such as ants and wasps spread formic acid as well, the sheer number of honeybees and the amount of plants they pollinate makes the honeybee extremely important to this process in nature." (As an up-building, restorative force for human lives, formic acid strengthens and brings warmth to our creative thought processes. ml)

The honeybee's population crash and its causes have been widely hypothesized. Many blame viruses, bacteria (including foulbrood) and bugs such as varroa mites, tracheal mites, and the hive beetle. However, such 'natural' attacks cannot be the sole cause. When we or animals are overcome with disease, it is a sign that our systems are weakened and unable to fight back, resulting in 'collapse.'

Chris Harp, an organic beekeeper and educator based in New York, believes that while numerous factors currently affect the bees, the two main culprits of the recent catastrophe are malnutrition and stress caused by our manipulation of the bees' natural processes. This includes the big business of artificial queen production (which uses artificial insemination). Also, "Over the past 100 years we've built a professional pollination industry where the bees are trucked across the country from one agribusiness mono-culture to the next. We are programming their natural GPS system rather than allowing them to seek out the diversity of plants they need to pollinate for their own well-being. As a result, they are becoming disoriented and very weak." This weakening of the bees is furthered as beekeepers strive to energize them with corn syrup, often genetically modified, rather than allowing the bees to survive off their own natural pollen reserves. "This corn syrup does not provide them with the adequate nutrients as pollen does. As a result, the bees are susceptible to parasites and bacteria," Harp advises. They are exhausted by our exploitation!
Hauk, whose dedicated beekeeping work began more than 30 years ago in Germany, has never experienced a dramatic loss of bees, colony collapse or foulbrood. This holds true for most organic and biodynamic beekeepers.

Witnessing a honeybee at work makes it clear that the bee knows best how to survive and thrive. Here are a few suggestions for beekeepers. First and foremost, organic, biodynamic and conventional gardeners, farmers and beekeepers should not use synthetic fertilizers or toxins to ensure that environmental pollutants

will not contaminate the hives. (Beekeepers especially should seek out and learn alternatives to using antibiotics or miticides in the beehive-ml). Second, the bees' hives should be built of natural materials such as wood, straw or clay. Third, one should avoid queen bees that have been artificially created in laboratories or systematic replacement of the queen bee with a new, younger bee – both standard industrialized beekeeping methods. Fourth, feeding bees with sugar or corn syrup is not recommended . Lastly, it is good to leave some honey and blossom pollen in the hives as food stock for the bees, when harvesting honey for consumption. Excerpted and edited from an interview by Jennifer Barckley, editor of WE, winter- spring issue 2008 of a bi-annual publication of Weleda North America, www.weleda/we

Among the 4000 species of bees' native to North America, many have adapted specific niches; for example bumblebees love plump, tubular flowers such as large penstemons. The European honeybee however, forages on a wide range of flowers of trees, shrubs, perennials, annuals and flowering vegetables and herbs. All our gardens, orchards and farms need pollinators and honeybees are among the best. With as much as 50,000 leaving the hive at once, they search for nectar stored in the blossoms, its sugar their primary source of energy and gather pollen which provides them with proteins and fats. It is the nectar enriched with enzymes and ferments which is actively concentrated in the hive—that becomes the honey.
Honeybees are not native to the US and the Americas'. They were introduced in the 1600's by European settlers in Jamestown, Virginia. Most rural households and many in towns kept bees as a source of a sweetener. The wax was utilized in candles and to seal prepared foodstuffs. At one time wax per ounce cost more than gold!

Attracting Pollinators

1. Most pesticides are not selective; you can lose beneficial plants and insects along with the pestier one. Honeybees for example, love dandelions.
2. Include native, adaptable and homeoclimatic (similar soil and climate) plants suited to local growing conditions. Choose plants compatible in moisture and cultural needs.
3. Heirloom varieties of herbs and perennials will provide good foraging. Hybridization has reduced the production of nectar and pollen and sometimes leaves the resulting plant completely sterile, useless to bees and other pollinators.
4. Choose several colors of flowers. Bees have good color vision and are especially attracted to blue, purple, violet, white and yellow. They like petals with nectar guides, colored stripes, spots and markings that direct them to the sweet stuff, like Morning Glories and Foxgloves.
5. Planting flowers in drifts comprised of one species will attract more pollinators than individual plants scattered in a habitat patch. Where space allows, plant drifts four feet or more in diameter.
6. With 4000 species of bees in North America of different sizes, tongue lengths and habitats, providing a wide selection of flower shapes and forms benefits the bees.
7. Plant for flower diversity displayed over a long season. Most bee species, especially the honeybee, are generalists feeding on a wide range of plants. This approach will support range of bees flying at different times throughout the season.
8. Plant where bees are most likely to visit in sunny spots rather than shade, with some shelter from strong winds. Offer shallow containers of water. And to attract leafcutter and mason bees, hang wooden nesting blocks.

As flowers lift and refresh our spirits, so do we inhale more deeply to catch a lovely or intriguing fragrance wafting from their blossoms. Gingerly collecting nectar and pollen from the plants love life, the honeybees return into the brilliant, cooperative organization of their hive…enthusing ripeness into honey. Curiously, the temperature in the hive is exactly as in our blood. Honeybees give back more than they take.

Attracting Pollinators excerpted and edited from fact sheets produced by Xerces Society for Invertebrate Conservation (www.xerces.org)
Flower Power list from information produced by Maggie Lee - www.gardengaia.com, Beth Schmidt Crowder, organic beekeeper and biologist, PO Box 88, Sabinal, NM 87006
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Themelissagarden.com
Karen Strickler-pollinatorparadise.com
Toward Saving the Honeybee by Gunther Hauk - 2002, available through www.biodynamics.com

Flower power to nourish the bees!

Trees	**Shrubs**	**Perennials**	**Herbs**	**Annual/Vines**
Black Locust	Bl. Mist Spirea	Alfalfa	Alliums	Cardoon
Corylus	Buckthorn	Aster	Basil	Cornflower
Cottonwood	Chamisa	Bl.eyed Susan	Borage	Cosmos
Crab Apple	Chokeberry	Buckwheat	Catnip	Echium
Elm	Cliffrose	Echinacea	Comfrey	Phacelia
Fruit Trees	Elder	Echinops	Coriander	
Apple	Forsythia	Gaillardia	Dill	
Apricot	Leadplant	Goldenrod	Fennel	Clematis
Cherry	Mt. Mahogany	Joe-Pye Weed	Hyssop	Virgins Bower
Peach	Mock Orange	Liatris	Lambs Ear	Sweet Autumn
Pear	Oregon Grape	Linaria	Lavender	Silver Lace
Plum	Sand Cherry	Lupine	Lemon Balm	
Golden Rain	Snowberry	Milkweed	Marjoram	
Hawthorn	3 leaf Sumac	Penstemons	Mint	
Linden	Desert Willow	Poppy	Parsley	
NM Privet	Willow	Pr. Zinnia	Rosemary	
Oak		Pur.Pr.Clover	Summer Savory	
Serviceberry		Heirloom roses	Sage	
		Scabiosa	Self Heal	
		Stonecrop	Teucrium	
		Sunflower	Thyme	
		Verbascum	Valerian	
		Wallflower	Veronica	