



## The High Cost of Almonds ... for Bees

### (The Great Elephant in the Room of Modern American Apiculture)

I have fallen in love with pollinators, and with honeybees in particular. With *Apis mellifera*, the honey-bearing bees who are some of the greatest teachers of my life. At the peak of summer, my family expands to more than a third of a million members. There is not a waking hour that goes by when I don't think about these precious winged souls. I am a shameless *Apis mellifera*-loving hussy. I speak bee and English is now my second language.

A few years before Colony Collapse Disorder (CCD) reared its head into the life of the world (and the death of bees), honeybees swarmed into my life and colonized my heart.<sup>1</sup> It wasn't until a few years later that I started to connect the dots back to my early life when, as a wee bee-loving girl in suburban Chicago, I would pick up curiously lethargic, but alive, honeybees from the sidewalk and carry them to the flowers in our backyard. Now, as a beekeeper, I look back and my best guess is that the bees I ferried to their probable final resting place were weary worker bees, in the last hurrah of their six-weeks-long lives. But it could also be that they were close to their last exhale after exposure to the awesomely beautiful, billowing, white DDT fog that I remember, ran and reveled in as a child. In the summer, the city of Park Ridge offered this chemical to the ailing Dutch Elm trees ... and to everything else within breathing distance (including the bees and my family).

I now have my Master Beekeeper's certification, which was years of happy work. And what it really signifies is this: that *I* know more about bees than *I* did before. But I will never feel like an expert, ever. This program is only one avenue, amongst many, of learning about bees.

Beekeeping is extremely humbling and time in the bee yard, *with* the bees, trumps everything. I was heading for a PhD in the 1970's and ended up with a BEEhD (as I call it) in 2010. But I remain at the feet of people who have years of bee tending on me (and some who have less).

I am also a treatment-free beekeeping mentor, speaker, educator and advocate. Some years ago, I was invited to speak to a garden club about bees and CCD, which people frequently ask about. A few positive things about Colony Collapse (in a generally deep and tragic sea) are these: it put honeybees smack dab in the middle of mainstream headlines where they have remained, on and off, ever since; and more people have come to appreciate bees and other pollinators, including an unprecedented number of women who I believe are stepping up in direct and compassionate response to CCD.

When I was preparing for the garden club talk, my attention kept drifting to the epic number of people in my life who have cancer. Five years ago, I might have known one person well who had it. In the last year or so, I am sad to say I can count ten close friends with serious, life-threatening diagnoses. Three of the great loves of my life died of breast, brain and liver cancer this year and two other dear friends passed the year before. As far as I am aware, no one has yet coined the term HCCD (Human Colony Collapse Disorder), but I can't help thinking about that unsettling acronym in my mind.

So these days, when I talk about CCD, I no longer talk about *that thing over there that is happening to the bees*. "Over there" is also *here*. We all share the same soil, water, air, plants ... and toxins. What is on tap for the bees on any given day is also part of what we absorb in our daily lives, one way or another. We really *are* all connected. What bees bring home on their bodies and now inside their food, in the nectar and pollen of flowers thanks to an insidious class of insecticides called neonicotinoids, is part of the same food system we share.

Over the years, it is children who have helped to fuel my passion for bees and their plight. Every year, I like to volunteer time at my local bee club's booth at the North Carolina State

Fair. In 2006, while dispensing *I Love Honey* stickers to children who had found the queen bee in the observation hive on our table, I noticed a young mother enter the building. She was holding the hand of a child on either side of her. The observation hive was right in the middle of our table and all the bees were clearly *under* glass (i.e. no buzzing free-rangers). She took one look at the hive, screamed, and yanked her children from the building (and I do not exaggerate). I daresay that set a tone for their relationship with bees and probably the whole of the natural world. That kind of fear can also travel along to the seven generations unborn. I was working the booth with my husband Joe and I remember turning to him and saying, “I feel like someone has thrown down the gauntlet. I *have* to educate children about honeybees, so they can also educate their parents.”

I mostly work with adults now. But over those earliest bee years, I did honeybee presentations for thousands of children (and their families and teachers) at fairs, festivals, summer camps, in classrooms, and all kinds of places under the sun, moon and stars. Children love to learn the bee’s waggle dance; they revel in the luscious colors of pollen and marvel at how magical (and how much work) it is for bees to make honey. They come to know why apples are round or not (depending on the number of pollinator visits) and why a cucumber bloom needs twelve to twenty visits from a bee to become a full fat cucumber (and not a sorry looking wilted thing that will never make an honest pickle). We discuss stings and the fact that when a honeybee stings, it dies, unlike wasps, hornets and yellow jackets (who are also someone’s children) who can sting, sting again, and live to a ripe old pollinator age.

Teaching children is a kind of wild miracle and talking bee with thousands of them over a period of years has left me with a happy vapor trail of their bright faces, questions, concerns, and brilliant ideas (about CCD and many things). And one of the most important lessons they have taught me is that if a child (or adult) doesn’t care about honeybees at least a *little*, they are not going to care about Colony Collapse or any kind of challenge to honeybees. If kids are confusing the yellow jackets that probably stung them last summer with the honeybees who probably didn’t, their fear and confusion can easily sabotage any inclination to appreciate bees.

And if their mothers are yanking them with a vengeance away from a safe, honeyed, cheerful state fair bee booth, then I know there is work to be done.

There are so many of us regular folks in the world, beekeepers getting on with the chop wood, carry water work of caring for bees, that are *not* scratching our heads about the causes of CCD. From a citizen scientist in-our-bee-yard-trenches point of view, we don't need even one more day of wondering what is up with bees and their health. Pesticides, herbicides, fungicides, and other "ides" have created a very toxic environmental cocktail for all of us. The half-lives and full lives of these substances have an appalling longevity. These days, when visitors like the Asian mite *Varroa destructor* (how's that for a name?), the parasite *Nosema ceranae* (ditto), and the Israeli Acute Paralysis Virus (same) come knocking on hive doors, they are finding easy access to compromised bee immune systems (just like the cancers that crept into the bodies of my friends when their immune systems were weakened and at risk).

We humans have made choices that have created a progressively more toxic world. Scientists who study CCD are hard pressed to isolate one single cause of Colony Collapse with so many factors to consider (in addition to the problem of "ides") like stress, mites, disease, malnutrition, and encroached habitat. For me, what is most important to remember is that beneath each of these various sad situations are the hundreds and thousands of decisions and actions we make and take as human beings. *None* of these challenges just happened along. They come in with the tide as our good sense, best practices and immune strength, flow out. And in a world where we have begun to embrace the word *sustainability*, we have yet to free ourselves of that word's human-centric overtones in favor of a *yahoo-for-all-life* kind of perspective (that includes the bees, too).

I think of toxic build-up in a hive in this way: Imagine deciding to paint your child's room and that the paint has the teeniest tiniest amount of lead in it, an "EPA approved" amount of lead. And then imagine that each time your child enters her room with her toys (her nectar and pollen), another thin layer of this same "safe" paint is applied to the walls, until one day your

child grows ill in this brightly colored “safe” haven. (And really, I don’t want you to imagine any child getting sick.) This is what is happening to the bees as they bring all kinds of toxins into their hives on and in their bodies ... and in the nectar and pollen. It builds up in the very retentive wax comb, the place where generations of bees develop and are born, and their food is stored (an especially compromising place for toxicity to be).

As a former baby (vintage 1952), I was named in the *Let’s-call-our-girls-Debbie* generation, which was very cool because decades later I learned that Debra (a form of Deborah) means “bee” in Hebrew. I grew up in the midst of the full tilt industrialization of agriculture (agri-biz), which fractured our relationship with nature. The “other” we used to care about, like the cows my grandfather milked by hand, my grandmother’s free-range chickens, and their neighbors’ bees (whose hives stayed put and were not moved around), became progressively more objectified by business as living things. They became *livestock* and were no longer life forms (a people, if you will) with their own right to well-being. We fell out of relationship ... and into business.

My maternal grandparents were Illinois farmers all their lives and after they died, I witnessed the changes in farming practices and in the land. Soybeans and corn, the two main mono-crops in that part of the world, are now planted much closer to the roads, the ditches and borders of fields, crowding out wildflowers and so-called weeds. Former pollinator habitat has been gussied up, sprayed away or claimed as a few more feet for the crops. Genetically modified organisms (GMOs) are having their day and most of the milkweed has departed, along with the monarchs. Cousins of mine who still live there say that the butterflies and moths they grew up with have all but disappeared.

When I visited the farm a few years ago, I looked out over the fields with a different eye, a beekeeper’s eye and not a growing-up child’s eye. And I had a heart-stopping thought: I realized that with the way things are now, I couldn’t keep bees on that land if I wanted to. They would starve. There isn’t enough plant diversity anymore across a whole year for them to forage

the nectar and pollen they need to live well (or at all). Soybeans are self-pollinating and don't depend on insects. And corn is generally a wind-pollinated plant, also not honeybee-dependent. All of this is extremely distressing and frankly, even though my grandparents were some of the greatest loves of my whole life, I have often felt grateful that they passed on decades ago.

I am sure they would also have felt as dismayed as I do about the contemporary commercial pollination industry in America and what it requires of the bees. California's almonds are central to the largest managed pollination event in the world, unique to the US because of how much of the almond market we have. With over 800,000 acres of these trees, this state produces about 80% of the world's almonds. This crop is one of California's most lucrative agricultural exports. And approximately 60% of *all the managed hives* in the United States are needed to pollinate these trees. Almonds trees, as it happens, are completely and uniquely honeybee-dependent.

This annual pollination event, beginning in California each winter, is a full-blown Trail of Tears for the bees. They travel, sometimes very long distances, on flatbed trucks in all kinds of weather. Some of those days can be in the hot sun, both during transport and also at the border crossings into California (where occasionally it is possible a truck can sit for bee-life-threatening hours as the complexities of border checkpoint and inspection play out). Once in the state, they join billions of fellow bees in holding yards where they are exposed to each other's diseases, pathogens, and viruses. They are fed high fructose corn syrup (which I liken to trying to raise healthy infants on liquefied Hostess Twinkies) in an effort to trick the bees and their queen into thinking it is spring (which it's not - it's winter, back where most of them come from). The queens start laying and building up their work force (well, *our* work force) for the Valentine's Day (of all things) almond bloom. And later, if they are part of a post-almond pollination circuit, which is often the case, they can endure more stressful months of travel, continued exposure to pesticides in other orchards and farms, and a poor diet as they trek from one mono-crop and mono-forest to another.

Bees, like us, require a varied diet – not two weeks of just-almond nectar, followed by another few months of just-pears, just-apples and later, just-clover nectar (as one example of a nutritionally stressful circuit). And *everything* the bees harvest in this experience, including diseases and pesticides, can come back home with the hive. This is enough to challenge the hardest of immune systems (and the analysis of the honeybee’s genome tells us how compromised their immune systems already are compared to other pollinators). And all of this we ask of a creature that already inspires the phrase “busy as a bee”, just by its very nature.

So why this California bee rush? Because it is gold, a modern American gold rush. In recent years, a beekeeper can expect \$175 - \$200 “rental fee” per colony to pollinate almonds. That figure represents payment for one hive providing pollination services for the whole almond bloom of ten to fourteen days. Here is what the rest of that hive’s season could look like, based on what a beekeeping colleague told me when he used to do the annual pollination circuit: after almonds, his hives headed to fruits like berries, apples, and pears, and then came back home through the Dakotas for the clover bloom. Clover honey could add another \$100 profit per colony. For the sake of simplifying the math, if we *underestimate* what each touchdown costs per hive, we could say that one colony could fetch \$150 (almonds), \$60 (berries), \$60 (apples), and \$30 (pears) = \$300 for that one hive’s season (not counting the clover honey). General thinking in our area is that a beekeeper needs at least 1,000 hives to be commercial, to *begin* to provide a primary livelihood for a household and raise a family. So \$300 a hive x 1,000 hives = \$300,000 for three to four months of work (including travel time).

The very largest commercial apiaries might send as many as 30,000 to 60,000 hives to the almonds. Do the math on that! Now bear in mind, there are broker, hauling, diesel, supplemental feeding, and other fees, along with a whole host of risks that impact those profits. And back at home, before the bees are moved, commercial beekeepers spend a lot on pollen supplements, medications, sugar syrup, queen replacements, and labor. But still, this can result in a very livable net income for a family. As precarious as this business can be, the financial

rewards from this type of pollination service can far exceed those of selling honeybees, queens, equipment or honey.

So once the hives leave home on this epic journey, a beekeeper might not have access to his bees for months, to be able to check on them in the usual ways. On-site inspectors in California who visit the holding yards, for instance, will do a random sampling of these colonies to be sure they meet contract specs before their pollination services begin. They are examined for things like strong healthy populations and good queen activity / laying patterns. But it is, of course, impossible for an out-of-state beekeeper to really know how his bees are doing, if he isn't with them in California (and the others states they might visit). And even for migratory beekeepers who do travel with their own truck(s), bees and family for months on a circuit, it is still difficult to *regularly* check on the welfare of their bees, in the normal ways, to find out if ... well, if they are really okay. *This is our responsibility.*

Even a first-year beekeeper knows enough to never casually invite anyone else's hives into their bee yard without being sure the visiting colonies are healthy. Most of us wouldn't feed our bees high fructose corn syrup and we also wouldn't send our hives off in a truck for days in a high-risk situation of weather, unknown temperatures, constant motion, and a potentially slow, hot border crossing into California. And we wouldn't allow our colonies to be exposed to months of pesticides in strangers' orchards, in places too far to be able to check on how our bees are doing. And yet we throw these good bee basics right out the window on behalf of the annual modern pollination event, all in the name of business.

The old-timer beekeepers here always tell us, "Know your bees, know your bees, know your bees. You *have* to get to know your bees." But we can't take care of our bees and know how they are doing if they aren't with us most of the time. The wonderful Simon Buxton, Fellow of The Royal Anthropological Institute in England, said, "The future of beekeeping is not in one beekeeper with 60,000 hives, but rather 60,000 people with one hive." I agree. And I would add, "60,000 people with one hive *that stays at home.*"



I think it is also important to understand the range of large to small pollination scenarios that come the way of bees every year in the US. Local and regional pollination, for instance, is generally a different animal. Smaller commercial beekeepers I know drive their own bees, in their own trucks, to an orchard or field and pick them up some weeks later. They drive at night when it is cooler for the bees (when they are less active and everyone is back home in the hive). The bees are not usually away from home for that long, so the beekeeper is still able to keep closer tabs on his hives' welfare compared to their California-bound sisters. And I have heard stories of how these more local contracts have also sometimes been a disaster for bee health. I don't move my hives and I never will. But truthfully, some of the foods I eat, as local as I try to be, still rely on somebody's pollination services, somewhere.

Migratory beekeeping also occurs elsewhere in the world. In Turkey, for instance, many beekeepers drive their bees to other floral sources and to the pine and chestnut forests every year. But they are generally not paid to pollinate crops with their bees; they are after the honey. And sometimes they even have to pay a fee to a landowner to keep their hives on that land during a honey flow. It also isn't uncommon for a beekeeper to camp with his bees for at least part of the time while they are away from home.

But the practice of moving bees is also creating problems in that honey nation, too. I had the privilege of spending a little time with a truly illumined bee researcher and professor in Ankara, Turkey named Aykut Kence. Unfortunately he passed away the year after we met. In my opinion, Professor Kence was one of the leading lights in honeybee research. He and one of his graduate students were investigating the compromised genetics and health of honeybees and their queens that result from moving bees around Turkey. He felt it was better to support regionally developed and adapted bees and queens, and not to move them. I also met a governor of a Turkish village, in a remote part of the Black Sea, who told me that he and five other local governors and villages had banned migratory beekeepers from their area. They shared the same concerns Professor Kence had expressed to me. So moving bees isn't unique to the United

States, but no annual bee odyssey or pollination event in the world holds a candle to the scale of what happens here in the US.

The siren call of mega-profits is alive and well in the almond and bee business. That some beekeepers choose to fulfill the needs of almond growers is understandable. Beekeeping is hard work and most of the bee people I know, including the commercial ones, would probably say they are following a calling (and, in fact, a Calling). It is a business chock-full of notoriously kind and generous people who want to make a good living and provide for their families.

There is a doctor in our community named Dr. Chad Krisel who is part of a very progressive and successful practice called Integrative Family Medicine of Asheville. In an article about modern health care, he says, “I think most doctors are good people practicing in a broken system.” I would say this is also true of the big commercial beekeepers and growers – they are good people practicing in a broken system. I don’t think blaming beekeepers or farmers is going to solve this. But neither do I think ignoring this and turning our heads away serves any of us, including (and especially) the bees. There are so many people economically entrenched in this annual ritual. It isn’t just beekeepers and growers who are invested – it’s also the brokers who negotiate the pollination contracts, the haulers, and the health food industry (where would we be without almond oil in our skin and hair products or almonds in our granola and baked goods?). And it’s also us, the consumers (myself included). Most of us depend a little or a lot on food provided through this current system. But the bee family are clearly not benefiting.

To me, our big annual pollination event shares a sad resonance with the unfortunate and inhumane way that some animals are treated in the veal, chicken and other large-scale meat industries. For bees, it is simply mobile factory farming. I don’t believe bees were ever (ever) meant to be part of big business operations on the immense scale they currently are. The most eloquent and sobering description I have ever read of what the bees experience each year at almond bloom time is in Rowan Jacobsen’s book, *Fruitless Fall*. If you only read the chapter on almond pollination and bees called “The Almond Orgy”, you will understand the plight of

these tiny winged angels in our midst. This annual event is disgraceful, brutal and a disaster for the bees. And I can tell you that what I just said is not a popular mainstream sentiment; it is almost a taboo subject, even amongst some of my own bee colleagues. But I am tired of trying to find a better way to say that. Frankly, if I were a bee on this circuit, I'd embrace CCD, take my colony and leave this life, too. It is *Apis mellifera's* annual Middle Passage (and they are sorely in need of a revolution).

Do we *really* wonder why we are experiencing annual losses of 30% of our bees each winter, and in some years up to 50%, when such a staggering amount of them are exposed to this annual nightmare? At this particular time in bee-challenged history, in these CCD times, aren't we responsible for *more* careful stewardship choices than ever? The cost of almonds, to bee health, is just too high.

I have felt the longest, deepest heartache about this whole sorry business. Many years ago, I attended a bee lecture given by my friend Diane Almond (yes, that's her real name). It was there that I saw my first photo of a flatbed truck with about 500 hives stacked on it. I sat in the back of the auditorium and sobbed. I just could *not* believe what I was seeing. Later, I felt so furious I could have stung someone. It has taken me years to compose an article about this annual American ritual, because I have been sorely un-composed. I needed time to simmer down, restore balance in my soul, find the high road, keep my heart engaged, work more with the bees, listen more *to* the bees, and understand how I was being called (by them) to help. And ah, if The Good Bee Road didn't reveal herself. I flowered into a honeybee educator, speaker, mentor, advocate, artist, steward ... and finally finished writing this piece (at long last). I offer it up into the world conversation and awareness.

I don't feel it is the big commercial people (growers or beekeepers who meet their needs) who are on the forefront of untangling this huge complicated mess (this "dog's breakfast", as my English friends would say). I believe it is the non-commercial backyard bee tenders and the burgeoning number of bee appreciators – us – who have the biggest pulse; we are the epicenter

of the moving and shaking that is happening now and is yet to come. And whether someone is on the humans-are-the-pinnacle-of-creation, industrialization-of-beekeeping side of the fence (which I'm not) or on the all-beings-are-in-this-together ground (which I am), I don't believe our conversation can afford to derail along that great divide. We all depend on honeybees, whatever our beliefs and whatever our practices. So what to do?

A few years ago, I gave myself some personal homework to see if there was any century of human life I could find that didn't have genocide (or attempted genocide) occurring on some continent or other, amongst some pocket of people or another. I am sorry to say I could find no such era. Every century has had its wonders and atrocities. And where the darker times in our history are concerned – when people are made to disappear, and women are burned at the stake, and inquisitions and wars leave their brutal mark – I know that along with those events come a whole heap of us so-called ordinary people that are horrified about what is happening, but too frightened to speak up. And that's often how it goes with human life, when we are overwhelmed, under-informed, oppressed, hungry, lazy, feeling entitled, or deeply afraid for ourselves and our families.

We become part of every problem we look the other way from. This turning away, this choice we make (now and historically) has courted some of the most unspeakable chapters in history. And where the contemporary welfare of bees is concerned, there is a *goliath*-sized elephant in the room of our modern agricultural and apicultural practices. Change begins here, in the sea of small choices and agreements we make in ordinary life about what is true, of value, and how to live. It is our individual choices that collectively impact the welfare of pollinators, the plants who offer their nectar and pollen so generously, and everybody else, including our children's children's children.

Here's something to know. Back in the day, farmers in the US could count on a combination of managed bees (in hives) and feral bees (wild bees not in hives) to pollinate their crops. Then when *Varroa* mites arrived in the 1980's from Asia, they decimated the honeybee populations. It

really was a kind of CCD of those times. An older man I know still gets close to tears when he talks about his losses in those years. Bees in hives died by the billions, but the feral bees, the ultimate *unmanaged* bees living in trees and places mostly out of human reach, all but completely died out. There are people, including myself, who still believe little pockets of feral bees exist, but no one within my hearing disagrees about the fact that if they exist at all, there are not enough of them to count on for any kind of reliable pollination. So these days, with the ferals mostly gone, honeybees particularly depend on our help in stewarding their colonies with the greatest respect and intelligence possible.

So again, what to do?

Diversified farming and biodynamic agriculture is one solution my beekeeper friend Jack Lion Fischer, of Jack's Nut Butters, talks about. As the creator of an amazing line of sprouted nut butters, his personal and business life naturally straddles bees and almonds, along with the hard questions that come with this tricky contemporary relationship. I want to shine a light on one paragraph from his website: "As a beekeeper Jack searched for almonds grown a better way and he was more than pleased to find Marian Farms Biodynamic, a medium-sized diversified farm growing almonds, citrus and grapes in Fresno, California. Biodynamic agriculture considers our farms and gardens to be living organisms that exist within a dynamic cosmos. With best practices such as composting, crop diversification and intelligent water management this agricultural movement aims to heal our relationship with the earth and feed our bodies and souls. Jack believes that crop diversification and smaller farms are one of the keys to ensuring a healthy future for our pollinators."<sup>2</sup> So do I. I find the congruency of Jack's beliefs and practices very refreshing and hopeful. He and Marian Farms are some of the bright lights on our landscape.

With the extreme and unprecedented drought conditions that many almond orchards are suffering in recent years, hundreds of thousands of acres of almond trees are going to go unplanted.<sup>3</sup> *The Wall Street Journal* also reports that due to the high percentage of hive die-offs

these days, an “increasing number of beekeepers ... are considering early retirement or are being forced out of business as honey bees continue to die at alarming rates.”<sup>4</sup> Nature is forcing the hand of the almond and bee industries on so many fronts that diversification of farms makes infinite sense (like some of these multi-generational farms used to be, back in their less industrial, more balanced heydays).

Another person I deeply admire is Dr. Marla Spivak, a wonderful bee researcher who gave an inspiring *TED Talk* in Edinburgh, Scotland in 2013. In about fifteen minutes, she hones in on a few things that anyone can do to help the bees: “Plant bee-friendly flowers, and don't contaminate these flowers, this bee food, with pesticides.” Planting flowers and refraining from ever adding one more toxic substance to this precious pollinated (and polluted) earth are simple, potent choices.

We can also vote with our dollar (no matter how many we have) by supporting local farmers, tailgate and farmers' markets, CSAs, restaurants that use local fare, and farm-to-table / farm-to-school-lunchroom programs.<sup>5</sup> We can purchase good seeds to grow food ourselves and we can buy local honey. These local choices develop local food muscle.

For those of us who keep bees, we can: become treatment-free beekeepers (and not medicate our bees); harvest honey judiciously, after we know our bees have enough for their own needs (including what they require for winter); explore top bar and other non-Langstroth hive options; add to the wealth of survivor genes *in our regions* by making daughter colonies from our vital and resilient over-wintered hives; choose to not participate in the big annual hive migration; spend more time watching and listening to our bees; and become insatiable learning hounds as we flower into better beekeepers ... then better bee *stewards*. And based on my own experience, I would add this – to allow for the possibility that beekeeping is actually a sacred *practice*, and to approach bees with the respect and reverence they deserve.

We can re-inspect our relationship with almonds, my former numero uno companion for toast in the form of almond butter. I know too much about the almond trade and its bad juju for bees, and so I have let go of almonds. My beloved elder, Grandmother Red Leaf, reminds me that most people believe they only have two choices in life: to do something or not do something. But she says there is a third choice: to choose not to choose. I do not want to live in the field of that third choice. And so I chose to “quit almonds”. I don’t pressure others about this. The world is full fat with almond lovers (and I am an educator, not the police). But if someone asks me why I don’t eat almonds, I tell them. And now that I have been teaching natural beekeeping in Turkey, I am delighted to discover that almonds also grow there, in more natural, bee-friendly orchards that have other wild flowers and food available for the bees. I call these “ahimsa almonds” (non-violent almonds) and I am happy to satisfy my almond craving there.

And a little courage, a little bravery is always an option. One small commercial beekeeper I know in the Southwest used to drive his hives to an organic almond farm in California every winter to pollinate the almond trees. He noticed his bees were starting to come home with some brood diseases. And then one year he saw the almond grower spray a fungicide named *Pristine* (of all things) on the “organic” trees and asked him what he was doing and why. The farmer explained that he was “just using the one chemical” and didn’t feel it was a problem. And so my compadre left, jiggity jig, taking his bees back home to New Mexico. He took a stand and stood by his bees and best practices ... and his household also took an economic hit because that would have been a significant amount of income for his family that winter. He has my deepest admiration for making that choice and for weathering some hardship because of it.

And we have our good thoughts. Ted Williams, my beloved Tuscarora elder, always said that we really only have four things in life: our good thoughts, good feelings, good words and good deeds (and that they are important in that order). Good deeds can be challenging enough but we all know what it is like to try and herd our cat-like thoughts on any given day (whew). But our thoughts have power. Remember that wonderful hundredth monkey effect written about in

the 1970s and '80s?<sup>6</sup> That phenomenon in which one (sometimes very simple) behavior or thought passes in some unexplained way from one individual to another and eventually suffuses a group, achieving critical mass and catalyzing a seemingly instantaneous change that is then available to the rest of the population? A shift in consciousness occurs and a new norm is born, taking up residence in our minds and lives like it's always been there.

It can be extremely challenging to thrive, some days, in the field of those four sacred things that Ted talked about and to *really* believe in the power of our small good choices (that could result in some kind of many-monkeyed big change). Life is very humbling. We don't always see the change we are part of, manifested in *our* lifetime. My grandfather told me that he knew he wouldn't live to experience equal and civil rights in our country. And he didn't. But he believed in them and acted accordingly. I believe we all see some of the effects and fruits of our labor in our lives. And at other times, I think we are asked to faithfully offer our actions up to our great-great-grandchildren whose faces we will never see. So much of this requires just simply doing the right thing (and what feels right *to us*). Many of our efforts will be un-thanked. But I don't think we are ever confused about what matters or what the right thing is to do, if we are really paying attention. In our heart of hearts, I believe we all know that the welfare of *all* life, the bees and every living one of us on earth, is what matters.

All of these what-we-can-do's can begin to dismantle that big mono-crop / mono-forest Food Thing in California and its hold on the contemporary American food system. I feel very privileged to live in the mountains outside Asheville, NC. It is a wildly abundant plant-and-bee-friendly, food lover's mecca. We are full to bursting with urban and rural farms, their produce, and access to it; there are fabulous winter bee schools, including one that is all natural in flavor, and an annual Organic Grower's School. We are home to The Center for Honeybee Research, the international Black Jar Honey Contest, Lenoir-Rhyne Center for Graduate Studies (in Sustainability), Asheville Institute, Patchwork Urban Farms, the Asheville Bee Charmer, and Wild Mountain Bees store (to name just *some* of what is hopping here). And in 2012, Asheville was voted the first Bee City USA (not to be confused with Beer City USA,



which we also are). We have big fat bee clubs in many of our local counties and an ever-growing number of passionate beekeepers, including our own tidal wave of women. The threads that connect local honeybees from hives to farms, tailgate markets, food stores, restaurants, schools, the arts, health, scientific research, and now the city, become more interdependent and exciting with every passing year. This is a humdinger of a buzzing Bee City. And we're not the only one.

Ultimately, whether we are beekeepers or bee appreciators who are never destined to have backyard hives, our love and appreciation of honeybees is the most powerful thing we can offer them. I believe love is the ultimate form of activism. Because when we love someone (two-legged, four-legged, wing-ed, root-ed or finned), there will *always* be times when that love is challenged. We will disagree, insult, betray, misunderstand, mistrust, irritate, get bitten (and bite), and get stung. And sometimes our beloveds will die. And then, Big Medicine of all medicines, we have to choose to love again ... and again. And we do so because, well, we *love* this other ... and we like how that feels back. Where loving honeybees is concerned, I experience a huge bee-ish conspiracy for good as they flower my capacity to be a better person in the world. My desire for them to be well, simply for their own sakes, somehow amplifies the love I feel for myself and for everyone else in my life. And the *everyone else*, of course, includes the people whose commercial bee practices I am most distressed about. Love is a merry trickster and keeps throwing all our hats and bee veils into the same ring.

When I look back on years of talking about bees with children, I would say the single thing that most impressed them was my *love* for honeybees. That an adult could stand up in front of them and publicly and passionately love honeybees as much as they love their dogs, cats, friends or grandparents, was a revelation to them (especially an adult wearing antennae and wings).

One of the most amazing experiences of my life was participating in a four-day retreat with 36 college students from all around Turkey. The event, which focused on honeybee inspiration, was the result of a unique constellation and collaboration of people. It was catalyzed by a force-of-

nature journalist and marathon runner (for bee causes) named Yonca Tokbas; hosted by an impressive youth leadership organization called TOG; funded by a forward-thinking cleaning equipment company called Nilfisk; and my renaissance friend Filiz Telek and I co-imagined the content. Four of us – Alper Kuyucu (my fourth-generation beekeeper friend), two amazing facilitators, and myself – embraced the sacred task of sparking the imaginations of this awesome group of young people, so they could come up with their own bee projects to implement in their own communities. The *Be Love, Bee the Love* campaign was born. We didn't teach beekeeping; we did share every flavor of bee inspiration drawn from the arts, science, spirituality, business, activism, and our stories from the bee yard. We gave the students hundreds of reasons to love and appreciate honeybees, so they could then create bee-supportive projects based on their *own* original and authentic inclinations of how to give, live and love. The great Senegalese conservationist Baba Dioum said, "In the end we will conserve only what we love. We will love only what we understand. We will understand only what we are taught." And so we taught our hearts out ... and in response, the students proposed such inspiring projects that most of us were weeping together on the last day. Some of those projects are happening right now. This less usual collaboration of bedfellows, with our very diverse backgrounds, ultimately proved so successful that it confirmed my theory (one more time) that honeybees are fostering a conspiracy-for-good on this planet.

So how can we help the bees? We can set the world on fire with our love of them, in all of the ways that we feel called to. Because it *is* love that makes the world go round. It suffuses everything we do and guides us. It calls out the reverence and devotion in us and shines a light on our benevolent and generous natures. We can love the bees, or at least love who *we* love, so *passionately* that it wells up and out of the cup of us like a great warm libation, pouring over all of life (which happens to include the bees). And *Carpe Bee'hum*, my friends (made-up Latin for *Bee Lovers Beware*). Prepare to fall in love more than ever you thought possible, for love *will* do its work and the bees will bring us home ... sweet home.

Blessed be. Blessed bees.

<sup>1</sup> Colony Collapse Disorder (CCD): The phenomenon of mass and sudden disappearance of worker bees from a honeybee colony, often leaving the queen, newly hatched bees and some brood behind. This causes the colony to stop functioning.

<sup>2</sup> For more information about Jack's Nut Butters, please visit: [jackssprouted.com](http://jackssprouted.com)

<sup>3</sup> *MarketWatch* story on almonds and the California drought: [marketwatch.com/story/almond-crunch-california-drought-witthers-world-supply-2014-03-11](http://marketwatch.com/story/almond-crunch-california-drought-witthers-world-supply-2014-03-11)

<sup>4</sup> *The Wall Street Journal*: "More Beekeepers Sour on Profession as Winter Die-Offs Continue." ([wsj.com/articles/more-beekeepers-sour-on-profession-as-winter-die-offs-continue-1422057396](http://wsj.com/articles/more-beekeepers-sour-on-profession-as-winter-die-offs-continue-1422057396))

<sup>5</sup> CSA: Community-supported agriculture is a food distribution and production system connecting consumers and farmers. People pay for "shares" of a farm's produce and receive regular portions of the crops across the growing season.

<sup>6</sup> The story of the hundredth monkey effect was published in Lawrence Blair's *Rhythms of Vision* (1975), with a foreword by Lyall Watson, and in Lyall Watson's book *Lifetide* (1979). It was later popularized by Ken Keyes Jr. in his book, *The Hundredth Monkey* (1982).



*Photo courtesy of Emily Nichols.*

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