Pollinators on the Plains: A Resource for Attracting and Keeping Bees – On Your Farm, In Your Yard, and In Your Community

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Pollinators on the Plains

In 2020, the world as we know it altered owing to the pandemic that swept the globe. Lives changed, lives and livelihoods were lost, paradigms shifted. Food and farming took on new relevance as ordinary tasks and perceived certainties, such as ready access to food and other staples, became difficult or out of reach. People turned to local farmers to fill their food needs at levels that are unprecedented in recent memory. This shift presented both opportunities and challenges for farmers, and above all, a need to adjust to the new "normal".

At KRC, we've had to adjust to a new normal as well. The pandemic temporarily took away our ability to gather people together for education and connection so we took to digital meetings and engagement, as did so many others, and worked hard to keep connections alive and to bring information to our friends and contacts via online platforms such as Zoom and Whova.

In February 2021, we held a virtual Pollinators on the Plains conference. Over 120 people attended, and it was an uplifting event filled with great information on the impacts of pollinators from pesticides, farming practices that benefit pollinators, diverse methods of keeping and housing honeybees, and two regional community initiatives that benefit pollinators while enhancing the community. It was good to see faces of friends, both old and new, coming together via our computer screens circling the campfire around our love of pollinators.

While there are obvious downsides to not being able to meet in person, there are a few perks to hosting a virtual conference. An online event allows for easier access for more people to attend, and allows for inviting high caliber speakers from near and far, as the limitations of traveling and scheduling are less complicated and restrictive.

We had a wealth of incredible speakers at our Pollinators on the Plains conference, including Dan Raichel, NRDC Staff Attorney, who heads the group's Pollinator Initiative. Raichel outlined the impacts of pesticides on pollinators and the role that agriculture plays in pollinator decline. In addition to general information about the perils to pollinators from agricultural chemicals that are used extensively on farm fields in the Midwest (and elsewhere), Raichel informed the group about a pollinator harming pesticide-caused environmental disaster that has been unfolding over the past year in Nebraska, sickening pets and live-stock, and ultimately ending in a ban on using neonic-coated seeds in ethanol production in the state. You can watch Raichel's presentation here - https://youtu.be/jUCsm-ITmkY.

Raichel mentioned in his keynote address that U.S. beekeepers report losing about 40% of their colonies each year. While interest in keeping honeybees has skyrocketed over the past decade, the challenges of keeping honeybee colonies healthy and alive is a formidable task as the factors that plague pollinators and honeybees - including pesticides, habitat loss, disease and climate change - continue to wreak havoc. To help beekeepers, or those dreaming of becoming a beekeeper, to navigate these challenges, we offered information on a range of beekeeping methods at the conference. Four regional beekeepers, all of whom utilize different tools, philosophies and strategies for keeping bees, shared their knowledge and answered questions, giving attendees lots of choices for getting started in beekeeping and keeping bees healthy in these challenging beekeeping times. Additionally, the Center for Rural Affairs presented findings from their study on the efficacy of different hive types.

Sarah Red-Laird, founder of Bee Girl, a Washington statebased non-profit which works to protect and promote honeybees, talked about a regenerative bee pasture project she is working on in Montana that involves interseeding pastures with bee habitat, offering a win-win for the rancher and for pollinators. The project has good potential for replication here in Kansas, and offered inspiration and motivation for a number of farmers who attended the conference.

Candy Thomas, NRCS Soil Health Specialist, gave an overview of farming methods that are beneficial to pollinators. So many of the practices that benefit soil health and microorganisms, such as reducing or eliminating chemicals, planting a diverse array of crops, utilizing cover crops and leaving natural habitat around your crop fields, also benefit pollinator populations on the farm.



In urban communities, efforts to protect and benefit pollinators can also provide big benefits for the people who live in the communities. MO Hives KC Co-Founder, Dr. Marion Pierson, and Manhattan Pollinator Pockets Director, Alfonso Leyva, talked about the uplifting and engaging projects they have going on in their respective communities, and they ways in which the projects benefit both pollinators and people in the communities where they are taking place. MO Hives KC's aim is to bring honeybees and beekeeping to an urban environment to engage the community in beekeeping and to provide beauty and wonder. Manhattan Pollinator Pockets aims to increase pollinator habitat, engaging the community in pollinator conservation and also adding beauty and wonder.

Surprisingly, bees and other pollinators often do well in urban environments, due to lower concentration of pollinator-harming pesticides and the abundance of flowering plants found in many urban neighborhoods.

As Dr. Pierson notes, "We've seen that bees actually thrive in (urban) areas due to their lower levels of pesticides and herbicides. Bees are an important element to our ecosystem and have suffered a severe population decline over the last 20 years. We aim to rejuvenate those populations while also rejuvenating urban neighborhoods."

It was an information and inspiration packed day, and the time flew by, despite being glued to the computer screen for the bulk of a day. A number of the presenters have allowed us to share the presentations with you, and they can be found in the index at the end of the publication, on KRC's website or our You-Tube channel.

In order to continue the impact of this educational event, we created this resource, filled with information on attracting and protecting pollinators on the farm, and a host of other additional information that we hope you will find useful in helping to protect pollinators and attracting and keeping bees on your farm, in your yard, or in your community.

Keeping Bees on the Farm By Oscar H Will III

Modern agricultural paradigms are always in flux, but now more than ever before the assault on pollinators via the agriculture industry cannot be overlooked. Not only is habitat destruction ongoing, but man's continual push for perceived efficiencies related to monoculture strategies that are biologically weak and reliant on millions of tons of synthetic inputs and genetically modified seed has created an environment that threatens life on earth as we know it. Farmers are still being paid to rip out tree rows to put land back into production and soil erosion is still an issue. Pesticide use is still sufficiently high to knock complex ecosystems into a continual state of imbalance that simply creates the need for more pesticides. Soils have been so depleted that crops of all kinds have become addicted to synthetic fertilizers. Wow, what a bleak time to be a bee, songbird, bat or any other creature that depends upon a diverse, relatively clean (chemically speaking) environment in which to live. What to do?

As a farmer, you have a number of options available to attract, protect and promote bees and other pollinators to your farm, all of which rely heavily on increasing diversity.

Preserve and create habitat. When hedgerows and shelterbelts are dozed and burned to make way for more crop acres, it's tough not to think about the dust bowl, but did you ever wonder how many bee trees and their feral colonies of bees are destroyed by this practice? Why not save hedgerows to preserve a diverse habitat for bees, songbirds and other creatures that will actually make pest management in crop fields easier and can ostensibly increase yields in monoculture grain/seed crops even in species that self-pollinate. To maximize this benefit, leave as much natural area as possible on your farm and add habitat designed to attract pollinators and other beneficial insects around your crop fields. You and the pollinators will revel in the results.

In fields with grassy waterways prescribed, we too often see monoculture grasses planted that might make a good hay crop but will require herbicide treatments to maintain their monoculture status. Waterways planted with a diverse mixture that includes wildflowers and even soil holding legumes that are allowed to flower before haying will reduce the need for pesticides, feed the bees and benefit the livestock that eat the hay.

In pasturelands, a diverse plant matrix is often the most resilient and productive, with the least need for inputs. If nectar bearing flowering plants aren't currently part of your pasture, consider overseeding or interseeding now and then with plants that can feed both the bees and your sheep or cattle. If you practice management intensive grazing by rotating through many different paddocks, you can readily offer the bees an ongoing nectar flow while put-

ting weight on your flocks and herds. This practice is actually a win-win-win because the animals and bees will benefit, you will build topsoil, and you can reduce or eliminate herbicide and fertilizer use (and bills!) at the same time.

Consider Poyculture Crops. Another idea for benefiting bees on the farm is to grow row and cover crops that intentionally attract and benefit bees. These practices will benefit bees, pollinators and other beneficial insects, which in turn will benefit your crops. One remarkable project carried out by a large-scale regenerative farmer near Windom, Kansas, provides an excellent example of what might be possible. The crop farmer, a strong proponent for intercropping and for using diverse cover crop mixtures planted a mixture after harvesting triticale that included cash crops like oilseed sunflowers and mung beans as well



as buckwheat, a small pumpkin, some squashes and a small watermelon. This field also had many colonies of honeybees placed at its edge. And in a very dry year, there was a steady progression of forage material for the bees and the farmer's sunflower yields were more than competitive in the area. As the cash crops were harvested in late Fall, many of the remaining watermelon fruits were crushed – what a waste. Except it wasn't a waste. The watermelons that were not picked and distributed turned out to be effective bee food! The bees had an unexpected late season flow of watermelon juice to add to their stored resources.

And, finally - Get Gardening! And, let a significant portion of your garden be devoted to pollinator-friendly flowering plants. This can include letting a portion of your garden crops go to seed as pollinators will happily visit your radish, lettuce, basil (and so many other) plants once they have flowered. Flowers in the garden will feed the bees and attract beneficial insects that will help control pests in your garden while minimizing the need for chemicals. For excellent information on which plants to grow to best benefit the bees and pollinators, see the resource section at the end of the publication. An additional benefit of attracting pollinators to your garden will be the happy buzz of bees and the bright and beautiful butterflies and moths that visit the flowers in and around your garden. Feeding the bees feeds your soul and reduces the chemical assault on you, your pets, pollinators, songbirds and other wildlife.

Adding Honeybees on the Farm -

If it's honeybees you're interested in keeping on your farm, in order to supply honey or other hive products or to help with pollination, all of the strategies outlined above apply and there are a few additional considerations. As pollinator populations have plummeted over the past decades, perhaps none have received as much attention as the European honeybee. Honeybee colonies have died off in droves, leaving beekeepers and others grasping for solutions. Despite efforts to slow or reverse pollinator decline in recent years, pollinator populations continue to decline and honeybee colony loss remains a significant issue for beekeepers. As a result, there has been an explosion in the production of package honeybees for sale to replenish beekeepers' hives that die out.

One consequence of having to replace significant numbers of lost colonies each year is that beekeepers are forced to become even more efficient in order to maximize their return on investment. Whether turning to cheap manufactured feed sources to supplement food stores during the winter, or utilizing chemical treatments or medications to try to boost bee health, this beekeeping paradigm fits right into the modern agriculture model where farmers, ranchers and now beekeepers are backed into buying all manner of input in order to eke out a bit of profit. But in the case of beekeepers, this paradigm includes restocking the bees themselves. Can you imagine a rancher replacing his cows every year or two due to the collateral damage caused by mainstream agriculture? Certainly not a sustainable model. So, what's a beekeeper to do?

Turn to Nature – Swarms for Free. Let's take a closer look at that 5th generation cattle rancher. Her herd is the result of perhaps 150 generations of breeding and selection for animals that suit a market, while also performing maximally and efficiently under her management strategy and environment. This is a strategy that few beekeepers have adopted in their quest for a viable business model, but it is one that can work if you leave some space and resources for your bees and work to promote a healthy, genetically adapted feral bee population in your region. In fact, that feral population likely already exists, and you can take advantage of this wonderful resource to build and bolster your apiary. Setting swarm traps or simply letting people know that you'll gladly collect swarms they find in their yard can result in a quickly-stocked apiary with no extra cost to the beekeeper. In addition to free bees, you might be getting excellent genetics carried by feral colonies that have adapted to survive.



In turn – Let Them Swarm. After reaping the benefits of stocking your apiary with wild-caught bees, letting your own hives swarm can offer a number of benefits. Healthy colonies naturally grow and increase in number and at some point they will swarm. This is how bees expand their populations and it is how they develop diverse, yet locally adapted, genetics over the generations. While you might get less honey from colonies that swarm that year because the bees need to put resources toward growing new bees, some beekeepers feel that colonies that swarm tend towards better survivability in the long run. Additionally, you can replenish your stocks with swarms that you capture. Sure, try to capture swarms in your apiary and populate your hives with them when you can, but when they don't choose to get caught or to take up residence in a hive you provide, know that you just seeded the feral bee population in your region and are helping to maintain its resilience through genetic diversity with bees from a healthy hive. Swarming goes both ways, if you are savvy.

Don't Bee Greedy and Supply Healthy Food for Your Bees. If you keep bees to reap the benefits of the hive, ditch the urge to maximize your volume of saleable or personally usable product. Bees make honey and other healthful things because they need them to survive and indeed to thrive. Healthy colonies are much better able to stay ahead of infestations of all manner of onslaught, except perhaps that of chemical poisons. So, rather than taking all but a few frames of honey and feeding your bees sugar water over the winter, consider leaving enough honey for your bees to survive the entire winter. After all, we would not thrive on a diet of junk food, so why would we expect bees to thrive on a diet of sugar water, processed pollen patties and the like? While it might seem that you are missing out on potential profit at the time, the cost savings in keeping hives alive and healthy through the winter should level out over time. Additionally, you will be contributing to a long-lasting, resilient landrace of localized genes.

Diversity and Integration. We've taken a look at a number of strategies for keeping bees on the farm, both native pollinators and managed honeybees. A common theme that runs through the list is adding diversity at every level and "leaving some" for the bees. Leave some habitat and create new. Leave room in your crop, pasture and land-scaping plans to feed the bees in novel ways. Add a diverse array of plants everywhere you can, from your garden to your crops to your pastures, and leave them to flower, offering precious resources for bees. Leave some healthful bee-made resources in your beehives to maximize honeybee health. Leave room in your honeybee management plan for a more region-centric swarm management plan. Couple as many of these concepts as you can with a reduction in synthetic pesticide exposure (through spray drift, residue consumption, contaminated pollen consumption, treat-ed-seed dust drift, etc.) and we can rapidly move beyond raising awareness to the pollinator crisis into diminishing the crisis itself. Here's to bees on the farm!

Oscar H Will III (Hank) is a longtime farmer, beekeeper and sharer of wisdom around all things homesteading and farm-related. Hank has had a wide-ranging career in addition to his farming gig, including stints as editor of GRIT magazine; editorial director of Mother Earth News, GRIT, Farm Collector, Cappers Farmer, Mother Earth Living, and Motorcycle Classics; author of eight books on topics ranging from International Harvester machinery to sustainable homesteading hacks; and genetics professor. In recent years, Will has found a passion for bees and beekeeping on his farm in Osage County, Kansas. He recounts some of his best original and received wisdom on the subject, to help you navigate the surest path to keeping bees on your farm.



Resources to help keep attract and keep bees on the farm, in your yard or with your community:

Pesticides and Pollinators –

The Impacts of Neonicotinoids on Pollinators, Dan Raichel, NRDC, Staff Attorney, Pollinator Initiative. Keynote address at KRC's Pollinators on the Plains Conference, February 2021 - <u>https://youtu.be/jUCsm-lT-mkY</u>

Protecting Pollinators: Thoughtful Ag Practices to Minimize Drift https://youtu.be/fjYZjXBgdEk

Pesticide Action Network - <u>http://www.panna.org/</u>

Great information on all things pesticide related. For information specific to farming – Food and Farming Derailed - <u>http://www.panna.org/pesticide-problem/food-farming-derailed</u>. Comprehensive resource for the impacts of pesticides in farming.

Beyond Pesticides - Protecting Honey Bees and Wild Pollinators From Pesticides

<u>https://www.beyondpesticides.org/programs/bee-protective-pollinators-and-pesticides/bee-protective</u>. Start here for an excellent, comprehensive guide to protecting pollinators from pesticides in your backyard or your community.

Center for Food Safety – Pollinators and Pesticides <u>https://www.centerforfoodsafety.org/issues/304/</u><u>pollinators-and-pesticides</u>. Timely updates on pesticides that are harmful to pollinators.

Protecting Pollinators in Your Yard -

Smarter Pest Management: Protecting Pollinators at Home - <u>https://xerces.org/publications/fact-sheets/smarter-pest-management-protecting-pollinators-at-home</u>





Pollinators on the Farm –

Farming Practices that Benefit Pollinators/Reducing or Eliminating Pesticides on the Farm

Institute for Agriculture & Trade Policy – A Farmer and Landowner Guide to Pollinators and Pesticides - <u>https://www.iatp.org/documents/farmer-and-landowner-guide-pollinators-and-neonicotinoids</u>

Union of Concerned Scientists – The Healthy Farm: A Vision - <u>https://www.ucsusa.org/sites/default/</u><u>files/legacy/assets/documents/food_and_agriculture/The-Healthy-Farm-A-Vision-for-US-Agriculture.</u> pdf_

Farming for Pollinators - <u>https://www.xerces.org/sites/default/files/2018-05/08-006_01_XercesSoc_Farming-for-Pollinators-brochure.pdf</u>

Cultivando Para Los Polinizadores - <u>https://www.xerces.org/sites/default/files/2018-05/11-005_03</u> Spanish-Pollinator-Brochure-Final-III.pdf

Guidance to Protect Habitat from Pesticide Contamination - <u>https://xerces.org/sites/default/</u> <u>files/2019-10/16-024_01_XercesSoc_Guidance-to-Protect-Habitat-from-Pesticides_web.pdf</u>

Agriculture Practices that Benefit Pollinators – Candy Thomas, NRCS Soil Health

Specialist - Presentation at KRC's Pollinators on the Plains Conference, February 2021. <u>https://you-be/9t9_H2J3aVY</u>.

ATTRA – Farmscaping to Enhance Biological Control <u>https://attra.ncat.org/product/farm-</u> <u>caping-to-enhance-biological-control/</u>. Techniques for ing nature to reduce or eliminate the need for pesticides the farm.

SARE – Cover Cropping for Pollinators and Beneficial Insects - <u>https://www.sare.org/resources/</u> <u>cover-cropping-for-pollinators-and-beneficial-insects/</u>

Protecting Pollinators: Thoughtful Ag Practices to Minimize Drift - <u>https://youtu.be/fjYZjXBgdEk</u> Pollinators in Peril: Farming for the Future - <u>https://youtu.be/cN2CnjI5shU</u>

Growing Together: Regenerative Farm Practices - <u>https://youtu.be/zx5lqc2xcwE</u>



Adding Pollinator and Beneficial Insect Habitat on the Farm -

From The Xerces Society for Invertebrate Conservation – • Establishing Pollinator Meadows from Seed – <u>https://xerces.org/publications/guidelines/establish-ing-pollinator-meadows-from-seed</u>

• Organic Site Preparation for Wildflower Establishment -

https://www.xerces.org/publications/guidelines/organic-site-preparation-for-wildflower-establishment

• Organic Site Preparation: A Comparative Overview - <u>https://www.xerces.org/publications/fact-sheets/</u> organic-site-preparation-methods-comparative-overview

• Farming for Pollinators brochure - <u>https://www.xerces.org/sites/default/files/2018-05/08-006_01_Xe</u>rcesSoc_Farming-for-Pollinators-brochure.pdf

• Cultivando Para Los Polinizadores - <u>https://www.xerces.org/sites/default/files/2018-05/11-005_03</u> Spanish-Pollinator-Brochure-Final-III.pdf

• Guidance to Protect Habitat from Pesticide Contamination - <u>https://xerces.org/sites/default/</u> files/2019-10/16-024_01_XercesSoc_Guidance-to-Protect-Habitat-from-Pesticides_web.pdf

• Farming for Pest Management - <u>https://xerces.org/sites/default/files/2018-05/08-005_02_XercesSoc_Farming-for-Pest-Management-brochure_web.pdf</u>

• Interseeding Wildflowers to Diversity Grasslands for Pollinators - <u>https://xerces.org/publications/bro-chures/interseeding-wildflowers-to-diversify-grasslands-for-pollinators</u>

Pollinators and Grasslands –

Interseeding Wildflowers to Diversity Grasslands for Pollinators - <u>https://xerces.org/publications/bro-chures/interseeding-wildflowers-to-diversify-grasslands-for-pollinators</u> Guidance to Protect Habitat from Pesticide Contamination - <u>https://xerces.org/sites/default/</u> files/2019-10/16-024_01_XercesSoc_Guidance-to-Protect-Habitat-from-Pesticides_web.pdf

Pollinator Plants for Farm, Yard or Community -

• Pollinator Plants - Southern Plains Region (includes all of Kansas) - <u>https://xerces.org/publica-tions/plant-lists/pollinator-plants-southern-plains-region</u>

• 100 Plants to Feed the Bees - Book - <u>https://www.storey.com/books/100-plants-to-feed-the-bees/</u>

Native Plant and Seed Sources - Kansas -

De Lange Seed, Inc. , Girard, KS - wildflower and grass seeds native to Kansas. Feyh Farm Seed, Alma, KS - native grasses and wildflower seeds for wholesale and retail. Green Cover Seed, Iola, KS - native grass and wildflower seeds. Kansas Native Plants, Topeka, KS - native wildflowers, grasses, trees and shrubs. Prairie Pride Plants, Wichita, KS - native plants for gardening and landscaping. Sharp Bros. Seed Co , Healy, KS - Midwest native grass and wildflower seeds. Star Seed, Osborne, KS - wildflowers and grasses native to Kansas. Vinland Valley Nursery, Baldwin City, KS - organic plants including a selection of natives.

Beekeeping Resources –

Basics of Beekeeping Video – Master Beekeepers Becky and Steve Tipton, Presentation from KRC's Pollinators on the Plains Conference, February 2021 - <u>https://youtu.be/Yd2xzc7mw0M</u>

Beekeeping Books -

A Book of Bees, by Sue Hubbell Natural Beekeeping, by Ross Conrad The Beekeeper's Handbook, by Diana Sammataro and Alphonse Avitabile Honey Bees & Beekeeping: A Year in the Life of an Apiary, by Keith Delaplane Keeping Bees with a Smile (Principles and Practice of Natural Beekeeping), by Fedor Lazutin and Leo Sharashkin

Kansas Beekeeping Organizations -

Heartland Beekeepers Association of SE Kansas - <u>https://www.hbasek.</u> org/

Kansas Honey Producers Association - <u>http://www.kansashoneyproducers.org</u>/ Konza Beekeepers - <u>https://www.konzabeekeepers.org/</u>

Midwestern Beekeepers Association - <u>http://www.midwesternbeekeepers.org/</u>

Northeastern Kansas Beekeepers Association - http://www.nekba.org/

South Central Kansas Beekeepers Association - <u>https://www.facebook.com/groups/SCKBA/?ref=pag-</u>es_profile_groups_tab&source_id=159925647363424

Western Kansas Beekeepers - <u>https://www.facebook.com/Western-Ks-Beekeepers-102299451370963/</u>

Online Resources -

- The Horizontal Hive Dr. Leo Sharaskin <u>https://horizontalhive.com/email-website-sharashkin/dr-leonid-sharashkin.shtml</u>
- University of Nebraska Entomology Department <u>https://entomology.unl.edu/bee-lab</u>
- University of Minnesota Bee Lab <u>beelab.umn.edu/bee-squad/resources-beekeepers</u>
- ATTRA Beekeeping/Apiculture- <u>https://attra.ncat.org/product/beekeeping-apiculture/</u>
- North American Pollinator Alliance N.A.P.A Bees <u>https://www.northamericanpollinatoralliance.</u> <u>com/</u>
- Great Plains Master Beekeeping Regional Beekeeper Training and Certificate Program https://gpmb.unl.edu/
- Bee Girl Organization <u>https://www.beegirl.org/</u>





Regional Community Initiatives –

From Pollinators on the Plains Conference - Community Pollinator Initiatives - MO Hives KC and Manhattan Pollinator Pockets - <u>https://youtu.be/_9ZwXl3aHxg</u>

MO Hives KC – <u>https://www.mohives.org/</u>. MO Hives KC educates and involves urban residents in the creation, preservation and expansion of pollinator habitats in the KC Metro Area, utilizing vacant land to support community health and wellness, as 33% of food depends on pollinators for growth. By creating a healthy urban apiary model that can be duplicated in other cities, MO Hives KC will inspire communities, provide experiential learning opportunities, amplify community garden yields, increase bee populations, and beautify previously blighted property. MO Hives KC is based on Detroit Hives - <u>https://detroithives.org/</u>.

Manhattan Pollinator Pockets – <u>https://www.mhkprd.com/500/Pollinator-Pockets</u>

In 2020, Manhattan Parks and Recreation began an initiative to restore several areas within the City to their native habitat. The initiative, called Pollinator Pockets, was introduced to the community in June during National Pollinator Week. The goal is to restore, increase, and protect pollinator habitats while decreasing landscape maintenance time and cost. Replacing lawn with native Kansas flowers and grasses reduces the need for regular mowing and drastically reduces fertilizer and pesticide usage. These pockets also absorb stormwater runoff and help control erosion.

Bee City USA - <u>https://beecityusa.org/hope-and-heart-volunteers-in-conservation/</u>. As the name suggests, the focus of Bee City USA is bees, and primarily our native species. The steps that affiliates take to conserve our native bees, including creating safe habitats and hosting community events, will also help other pollinators including butterflies and moths as well as the non-native honey bee. One of the most impactful actions any affiliate can take is to encourage others to think beyond the honey bee and recognize the true diversity of bees that sustain our communities. Joining the cities and campuses across the country rallying to protect pollinators is a great way to bring your community together to create positive change. Bee City Commitment - https://beecityusa.org/bee-city-usa-commitments/.



Founded in 1979, KRC's mission is to promote the long-term health of the land and its people through research, education and advocacy that advance an economically viable, ecologically sound, and socially just food and farming system.

We believe pollinators are an integral part of this paradigm.



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