



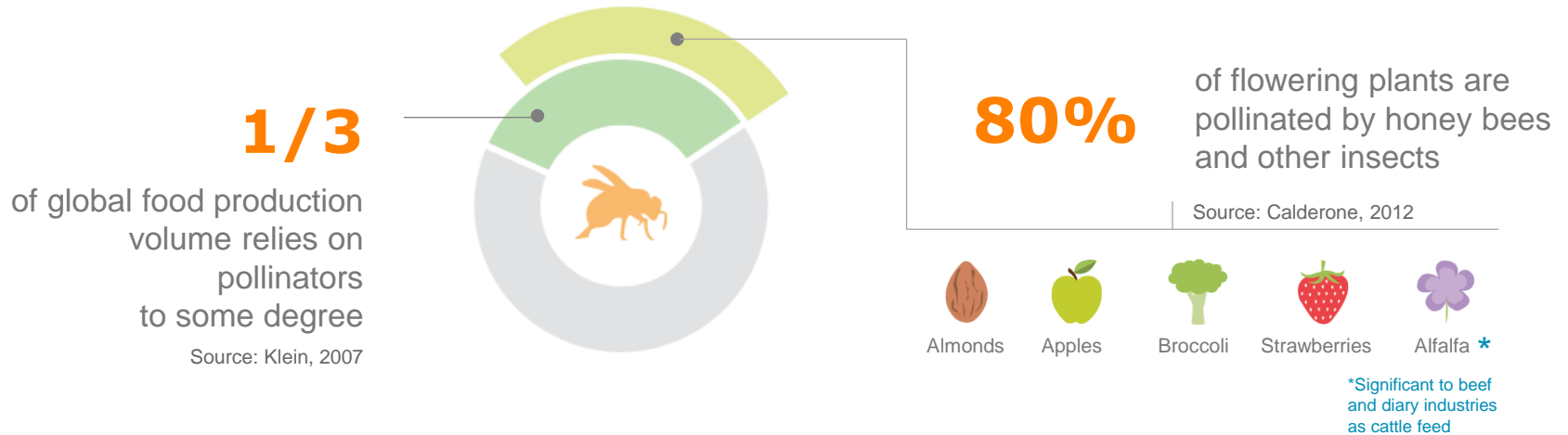
THE HONEY BEE HEALTH COALITION

Improving Bee Health and the
Security of Our Food Supply

THE WORLD RELIES ON THE HONEY BEE

Honey Bees Are a Key Component to Sustainable Agriculture, Healthy Diets, the Global Food Supply, and the Economy

A Healthy Diet



U.S. Agriculture

\$18 Billion Per year

The amount of dollars of U.S. agricultural production supported by honey bee pollination

Source: USDA

U.S. Economy and Global Food Supply

\$11.68 Billion

The value of pollinated crops in the U.S. directly attributed to honey bees in 2009 alone

Source: Calderone, 2012

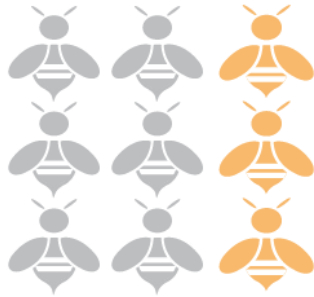
“ The future security of America's food supply depends on healthy honey bees ”
Tom Vilsack, Agriculture Secretary



THE CURRENT CHALLENGE

Factors that Pose a Challenge for Honey Bee Health

The Challenge



APPROX. 30%

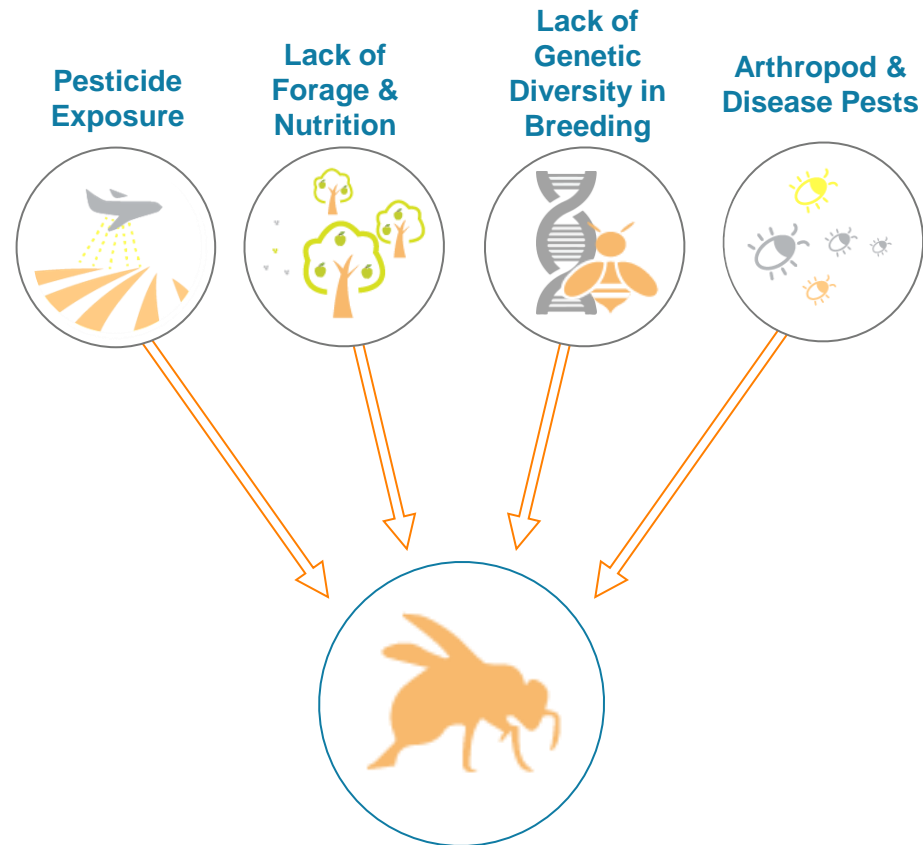
Of honey bee population lost each winter, compared to 10-15% historically

Today, a **major decline in honey bee health** has put agriculture, healthy lifestyles, and worldwide food security at risk. U.S. overwintering losses for managed honey bees between 2007 and 2011 ranged from approximately 28-33%, compared to a historical rate of overwintering losses of 10-15%.*

*Source: Survey data generated by USDA

Stress Factors

This decline in bee health has been linked to a variety of factors, including those influenced by the activities associated with both **beekeeping and crop production**.



A CLOSER LOOK AT STRESS FACTORS

There Are a Variety of Potential Stress Factors that Can Impact Honey Bee Populations

Stress Factors

Pesticide Exposure

Intensified agriculture and beekeeping practices lead to pesticide exposure.



Arthropod & Disease Pests

Intensification of commercial beekeeping and miticide resistance has increased honey bee susceptibility to Varroa mites.

Lack of Forage & Nutrition

Lack of a varied diet – due to declining wild spaces and increased monocultures – have led to honey bee malnutrition.



Lack of Genetic Diversity in Breeding

Management and selective breeding practices are believed to have caused reductions in genetic diversity in honey bees.

A SHARED FOOD VALUE CHAIN

Honey Bees Play a Foundational Role in Our Food Value Chain

The Food Value Chain

Producers

- Farming
- Beekeepers and honey bees



Agribusinesses

- Inputs (seeds, fertilizers, crop chemicals, equipment)
- Trading
- Processing



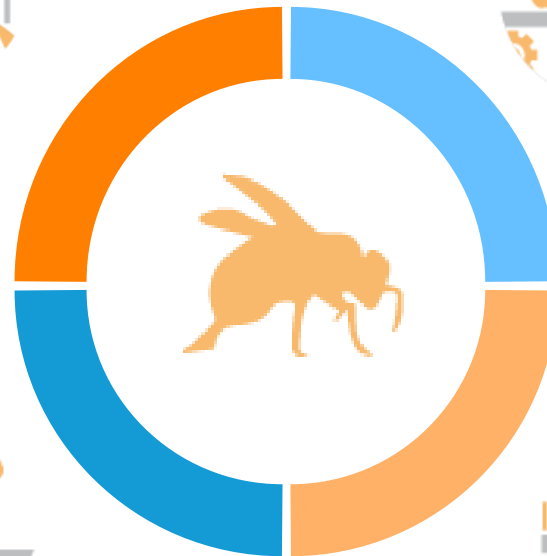
Consumers

- Shopping
- Consumption



Manufacturers & Brands

- Restaurants
- Consumer brands
- Retail



Researchers, Government Agencies, & Academia

- Research, Education, Extension, Regulation

A LOOK AT COMMERCIAL POLLINATION

Commercial Honey Bees – Guided by Beekeepers – Pollinate a Variety of Crops That Support Our Nutrition and Healthy Lifestyles

1. Beekeeping



Beekeepers grow and nurture honey bee colonies in many locations in North America

2. Transport



Trucks transport honey bee colonies to production agriculture

3. Unloading



Honey bee colonies are unloaded and placed in production agriculture fields

4. Pollination



Beekeepers monitor and manage colonies as honey bees pollinate crops

5. Agricultural Productivity



Bees increase fruits, vegetables, nuts, and other crop yields; bee-friendly plants increase soil health

6. Market



Crop yields are harvested and enter the food value chain

WHAT'S AT STAKE FOR MEMBERS OF THE COMMUNITY?

If a diversity of stakeholders in public, private, non-profit sectors across the food value chain do not effectively collaborate on this issue, through research, communication, project implementation, and other mechanisms, we risk:

What's at Stake?

A decline in the health of honey bees and other managed and native pollinators, and an increase in overwintering losses of honey bees

Economic impacts on the beekeeping industry and on growers and producers whose crops are pollinated by bees

Impacts to **our global food supply and healthy ecosystems**

Decisions that lack multi-stakeholder support and are not based upon good science, which could limit growers' ability to manage crops and support our global food supply

Continued confusion across sectors about what the root causes of the problems are – and a **lack of focus on solutions that work** for multiple parties

Envisioning a Better Future



We've formed **The Honey Bee Health Coalition** to bring together beekeepers, researchers, government agencies, agribusinesses, growers, conservation groups, manufacturers and consumer brands, and other key partners to improve the health of honey bees in general and specifically around production agriculture.



The Coalition will work together to restore bee health and protect the future of honey bees and the food supply, while also benefiting other native and managed pollinators.

Our Mission

Our mission is to **collaboratively implement solutions** that will help to achieve a healthy population of honey bees while also supporting healthy populations of native and managed pollinators in the context of productive agricultural systems and thriving ecosystems.



We're taking action to measurably improve honey bee health by:

1

Improving and sustaining honey bee health at all levels of beekeeping

2

Identifying and implementing novel and proven solutions to major honey bee health challenges

3

Enhancing effective communications and collaboration among diverse private and public sector stakeholders with interests related to beekeeping, pollination, and agriculture production

4

Instituting sound science and evidence for decision making

HONEY BEE HEALTH COALITION INITIATIVES

The Coalition is focusing on accelerating collective impact to improve honey bee health in four key areas.



Nutrition & Forage

We are looking at ways to improve honey bee nutrition to provide diversity in honey bee forage



Hive Management

We are making investments to understand and suppress varroa mite and virus susceptibility and developing best management practices (BMPs) for beekeepers



Crop Pest Management

We are developing crop- and product-specific best management practices and messaging



Cross Industry Collaboration

We are working across the public and private sector to coordinate on solutions that work

COMMUNITY ACTIONS & AGREEMENTS FOR 2014

Cross-sector stakeholders gained consensus on the following coalition **actions and agreements during the April 2014 Honey Bee Health Coalition Summit:**



Forage and Nutrition:

Developing goals, strategies, and next steps regarding improved nutrition (and overwinter survival); working in near-term on components, messages, and incentives for conservation programs and sharing and fostering partner activities.



Hive Management:

Defining discrete near-term projects and next steps regarding funding tech transfer teams; conducting a gaps analysis for research; creating and disseminating educational materials and kits for beekeepers; and initiating research on varroacide resistance, efficacy and thresholds.



Crop Pest Management:

Working to develop crop- and product-specific Integrated Pest Management (IPM) practices and messaging to improve bee and pollinator safety. Promoting communication among stakeholders (particularly beekeepers and growers); raising awareness of crop pest management issues for bee health; disseminating existing information; and creating a network to address emerging issues in a collaborative environment. Continuing to use the Coalition to discuss issues, build relationships, and promote communication and understanding - while recognizing that best management practices (BMPs) are region- and crop-specific.



Outreach, Education and Communications:

Focusing on promoting collaboration across honey bee health stakeholders.

BENEFITS OF MEMBERSHIP

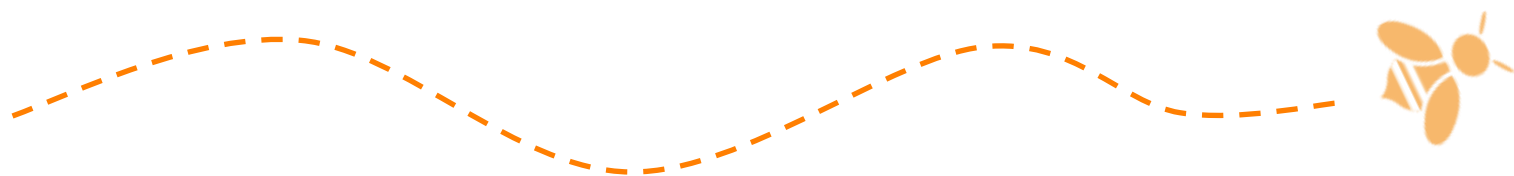
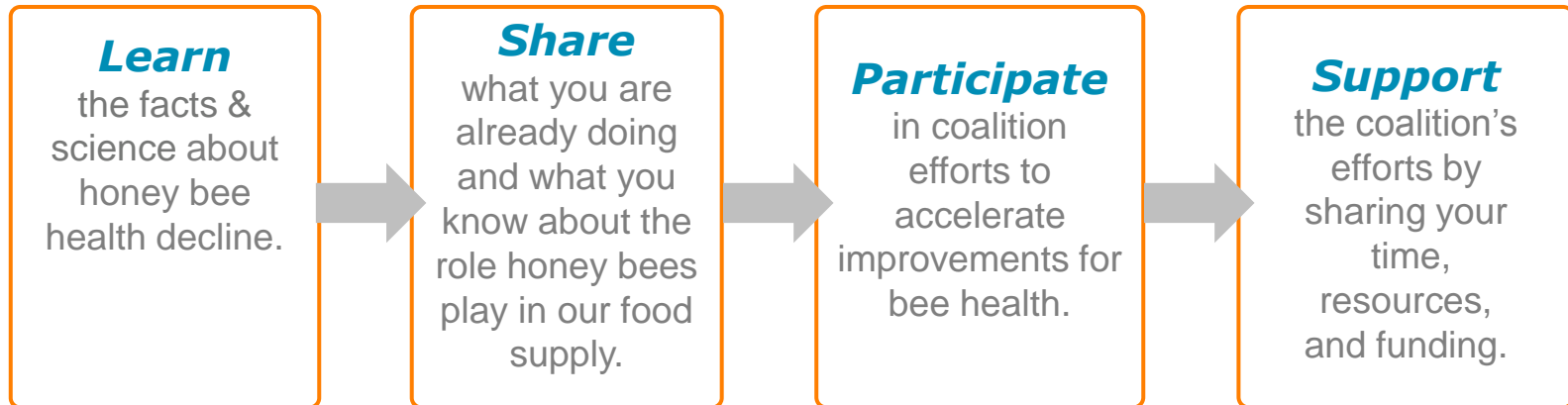


By supporting the Honey Bee Health Coalition through membership, financial, and in-kind contributions, you will:

- **Join other leaders** in driving collective solutions for honey bee health
- **Contribute your thought leadership** to increase visibility of and investment in honey bee health
- **Develop shared priorities** for actions that result in increased and more coordinated use of partner resources in the implementation of member-driven solutions that deliver a higher impact
- In collaboration with a broad and diverse network of partners, **foster new relationships, share ideas, leverage existing efforts and expertise, identify and incubate new opportunities**, and forge partnerships to implement new initiatives
- **Substantively improve honey bee health**, the health of native and managed pollinators more broadly, and worldwide food security – all in the context of productive agricultural systems and thriving ecosystems

Join us!

Join us as we work to achieve a healthy population of honey bees to support productive agricultural systems and thriving ecosystems.



REFERENCES

Calderone, N. W. 2012. *Insect Pollinated Crops, Insect Pollinators and US Agriculture: Trend Analysis of Aggregate Data for the Period 1992–2009*. PloS one 7:e37235.

Klein, A. M., B. E. Vaissiere, J. H. Cane, I. Steffan-Dewenter, S. A. Cunningham, C. Kremen, and T. Tscharntke. (2007). *Importance of pollinators in changing landscapes for world crops*. Proceedings of the Royal Society B: Biological Sciences 274:303-313.

Pollinator Partnership. (2014). *Pollinators need you and you need pollinators*. Retrieved from <https://www.pollinator.org/pollinators.htm>

U.S. Department of Agriculture (USDA). (2014, Feb 25). *Agriculture Secretary Announces \$3 Million for a New Program to Improve Pollinator Health*. Retrieved 15 Mar, 2014, from U.S. Department of Agriculture (USDA): <http://www.usda.gov/wps/portal/usda/usdahome?contentid=2014/02/0028.xml>

U.S. Department of Agriculture (USDA). (2013, Dec 2). *Honey Bees and Colony Collapse Disorder*. Retrieved 15 Mar, 2014, from United States Department of Agriculture Agricultural Research Service: <http://www.ars.usda.gov/News/docs.htm?docid=15572>