Agvocacy Program

An Overview: Bee Health

Honey bees, wild bees and other pollinators are important to agriculture. Bayer is active in protecting bee health and the safe use of crop protection products, both of which are needed to boost farm productivity. When it comes to solving challenges like food security, protecting crops and ensuring bee safety, it's not an 'either-or' option. They need to go hand in hand.

The Basics

- **What:** Modern agriculture requires effective crop protection products and healthy, diverse and adequate pollinators to meet the food challenges we face, now and in the future.
- **Why:** There are many factors affecting bee health and Bayer is active in working to develop solutions to help these important pollinators thrive.
- **How:** Bayer is strongly committed to safely protecting crops that bees pollinate and supporting the development and adoption of digital tools that will generate the data, record keeping and insights needed to enhance decision-making to improve honey bee pest and seasonal management in a climate-smart way.

The Background

There are more than 20,000 species of bees worldwide, a small subset of which (around 2 percent) is critical to agriculture. Of these, the honey bee is the most important because it is a generalist pollinator that can be easily managed and moved in high numbers to different crops when needed throughout the growing season. Despite public perception, managed honey bee colony numbers have increased around the world by 65 percent since 1961.[1] Still, beekeepers are faced with many challenges in keeping their bee colonies healthy. While much attention has focused on pesticides and their potential impact on bees, there are other, more important factors affecting honey bee colony health including parasites, predators, pathogens, adverse weather events, inadequate nutrition, loss of foraging habitat and inadequate honey bee colony management. Bayer continues to seek solutions to these challenges to help honey bees and other pollinators thrive.

The Highlights

Bees are important to agriculture (and vice versa).

- While some of the most important staple food crops don't require insect pollination, those that do, such as many fruits, nuts, vegetables, and seed crops are frequently pollinated by bees. Nearly one-third of our fruits, nuts and vegetables benefit from pollination by bees.
- Farmers benefit from this relationship in terms of higher yields and better quality crops. Honey bees and some wild bee species benefit from having access to vast areas of farmland containing crops and flowering wild plants that provide nectar and pollen for the bees. Consumers enjoy the fruits of plentiful harvests and bees labor. Safely protecting the crops that bees pollinate from pests and diseases ensures pollination, and this contributes to providing abundant and affordable food for all.
- In the past, some farms may have relied on pollination from unmanaged honey bees – but the growth of our population and food system needs coupled with the emergence of the Varroa mite have led to the rise of managed bees.

Honey bee populations are increasing.

- Despite many sensational claims to the contrary, the number of honey bee colonies globally has been increasing for many years. The FAO reports there has been a 65 percent increase in the number of managed honey bee colonies since 1961.[2]
- In the EU, colony numbers increased by more than 25 percent over the last 10 years.[3] In Germany, increases of up to 20 percent have been observed in recent years.[4]
- In the USA honey bee colony numbers have reached their highest level in two decades at 2.7 million managed colonies.[5] In Canada, the number of honey bee colonies increased 10 percent from 2014-2019.[6]

References

1. Food and Agriculture Organization of the United Nations statistics.
2. Ibid.
3. Report From the Commission to the European Parliament and the Council. European Commission. https://ec.europa.eu/transparency/regdoc/rep/1/2016/EN/COM-2016-776-F1-EN-MAIN.PDF
4. Imkerei in Deutschland. Deutscher Imkerbund E.V. https://deutscherimkerbund.de/161-Imkerei_in_Deutschland_Zahlen_Daten_Fakten
5. United States Department of Agriculture National Agricultural Statistics Service: https://www.nass.usda.gov/Surveys/Guide_to_NASS_Surveys/Bee_and_Honey
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The Highlights

Many factors affect bee health.

- Honey bees are subject to many different threats, including parasites, predators, pathogens, adverse weather events, inadequate nutrition, loss of foraging habitat and inadequate honey bee colony management. However, most experts agree that the greatest threat to honey bees is the parasitic Varroa mite and the deadly diseases it spreads within and between colonies. Farming and beekeeping practices, such as the use of insecticides to control crop pests or acaricides to control bee parasites such as the Varroa mite, can also play a role if the respective products are not applied according to the label instructions.
- Wild bees face similar challenges from parasites and diseases, changing plant communities and blooms, and habitat destruction such as large scale forest harvesting, and urban and industrial expansion.

Crop protection and ensuring pollinator safety go hand in hand.

- Through our activities, we aim to strike a balance between contributing to the health, wellbeing and diversity of bees and other pollinators, while helping farmers to optimize their agricultural productivity.
- Crop protection products are among the most heavily regulated products in any industry. They require extensive environmental safety testing to ensure they will not pose any unreasonable risks to wildlife, plants and the environment.
- To ensure the safety of our products for honey bees and other pollinators, we conduct extensive testing, risk assessment and stewardship measures to optimize crop protection and protect pollinators.
- Much attention has focused on pesticides, such as neonicotinoids. Some study designs, such as certain laboratory and semi-field conditions and treatments, may show negative effects. However, large-scale field studies conducted under realistic conditions, where risks from pesticides are mitigated through responsible use, shared concerns for the environment and in accordance to safe use label direction, have shown that these important crop protection tools have no impact on honey bee colony health.

Bayer initiatives to protect bee health put pollinators first.

- At Bayer, we have experts committed to expanding the understanding and practice of beekeeping through collaborations with global researchers with local expertise, the promotion of excellence in pollinator science, or via communication and dialogue with stakeholders.
- As a part of the Healthy Hives Latin America 2020 (Salud Apícola 2020 Latinoamérica) program, the Bayer Bee Care Center collaborates with the Fraunhofer Chile Research Foundation and local researchers and beekeepers' associations to monitor honey bee health, disseminate knowledge about the best beekeeping practices and create research collaborations to jointly work on honey bee health.
- Launched in 2015, the Healthy Hives 2020 USA research initiative is focused on studying critical bee health topics affecting beekeeping, such as bee nutrition, the parasitic Varroa mite, disease management and enhanced colony management techniques through "smart hive" technology.
- In collaboration with the Bee Care Center, ecologists are assessing the impact of ecological enhancement measures in Germany's Upper Rhine area. The Upper Rhine Valley research project is investigating how wildflower strips and areas can enrich the number of species and diversity, as well as the abundance of bees and butterflies in intensively-farmed areas.

Key Things to Remember

- Sustainable agriculture requires effective crop protection products and healthy, diverse and abundant pollinators to meet the food challenges we face now and in the future.
- Pollinators face numerous challenges globally. Bayer is working with scientific collaboration partners around the world to tackle some of these challenges.
- While much attention has focused on the use of pesticides and their potential impact on bees, many studies support that these products do not harm honey bee colonies when used as directed.
- We are dedicated to sharing knowledge and expertise with beekeeping, agricultural and scientific communities, including leading regulatory agencies.