



Pollinator Protection Plan

Introduction

The New Mexico Beekeepers Association has developed a Pollinator Protection Plan in an effort to promote communication and cooperation among beekeepers, growers, farmers, pesticide applicators and other interested parties in protecting pollinators.

The first part of this document includes information that supports our positions; the second part includes best practices and recommendations for beekeepers, landowners and pesticide applicators.

New Mexico boasts as many as 2,000 pollinator species, including 300 species of butterflies and 1,400 species of bees. Increasing habitat loss, pesticide use, diseases, invasive species, and extreme weather are all impacting New Mexico pollinators. New Mexico growers rely on both managed and feral populations of pollinators, honey bees being the most common. Over the past decade, studies have shown that pollinating insect populations are in decline. (Van Engelsdorp and Meixner 2010, Fairbrother et al. 2014). Farmers, applicators, gardeners, land stewards, and beekeepers aware of the plight of pollinators are beginning work toward collaborative solutions.

Growers and applicators face difficult decisions when managing pests and minimizing negative impacts to pollinators. This plan demonstrates some ways they can do both. Following the Best Management Practices (BMPs) within this document will help ensure that pollinators are protected. Their protection is essential for abundant, affordable, safe and nutritious food.





The NMBKA Pollinator Protection Plan

This Pollinator Protection Plan (PPP) does not propose restriction of the use of pesticides; rather it seeks to complement existing label and rule requirements to protect bees when pesticides are used in both agricultural and non-agricultural settings. It contains voluntary Best Management Practices (BMP) for pesticide users, landowners/growers, and beekeepers in hopes of creating the following positive outcomes:

- ✓ Ensuring positive relationships among beekeepers, landowners and pesticide applicators.
- ✓ Reducing pollinator exposure to pesticides.
- ✓ Ensuring a robust apiary industry, native pollinator population, and agriculture economy.
- ✓ Continued compliance with pesticide label requirements and New Mexico rules to protect pollinators.

Localized issues may need more specific BMPs. These general guidelines are a starting point for protection of managed bee populations. Additional research and efforts are needed for wild pollinators or managed bees in an area that may be facing a unique threat.

Pesticides

Risks to pollinators associated with pesticides can be managed through communication and education. Using pesticides wisely helps protect pollinators and reduces problems with pesticide resistance.

One class of pesticides, neonicotinoids, are particularly concerning. Neonicotinoids are a group of insecticides widely used on farms and in urban landscapes. They are absorbed by plants and can be present in pollen and nectar, making them toxic to bees and other





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pollinators. Research published in 2016 shows how neonicotinoids are killing bees or affecting their behaviors in sub-lethal ways that weaken honey bee colonies. Research also shows that neonicotinoids persist in plants and soil much longer than previously expected.

In 2013, the European Commission (the European Union's executive branch) banned the use of three neonicotinoids—imidacloprid, thiamethoxam and clothianidin—on flowering crops attractive to pollinators and on crops growing grains for cereals. In 2018, it went further and banned all outdoor uses of the trio, and in February 2020, it did not renew the approval of a fourth neonicotinoid called thiacloprid, resulting in its *de facto* ban.

Access to secure food systems, clean water, and healthy soils is imperative. In the absence of legislation that would restrict the use of neonicotinoids in New Mexico, NMBKA recommends following a common-sense approach to limit the use of neonicotinoids by:

- Halting use of neonicotinoid products by backyard gardeners and other unlicensed applicators;
- Requiring labeling of plants and plant materials that have been treated with neonicotinoids;
- Prohibiting applications of all neonicotinoid products on bee-attractive crop plants during bloom; and
- Continuing research on the effects of neonicotinoids on both managed bees and wild bee populations.





Challenges Faced by Beekeepers and Pesticide Users

Beekeepers - Nutrition and Pests

Nutrition has an impact on individual bee health and colony longevity. Bees generally become active in the spring with warmer weather and the flowering of plants. Ensuring nutritious forage during the active season is essential to their survival.

Honey bees rely on a wide variety of plants blooming throughout a season to provide pollen for their protein source and nectar for carbohydrates. Honey bees are generalists; i.e., they visit many blooming plants in order to obtain all of the essential amino acids and nutrients required to build and maintain a strong colony. Bees become easy targets for pests, predators and pathogens when they do not obtain the proper balance of nutrients. Bees provided with quality forage are better able to handle external stressors like pesticides and parasites.

Growers, pesticide applicators, and beekeepers can help reduce pollinators' exposure to pesticides and improve the quality of forage. Varroa mites are considered to be the greatest in-hive threat to honey bee colonies. Pesticide exposure greatly reduces a honey bee's ability to withstand the impacts of varroa mites, as both negatively affect a honey bee's ability to filter out toxins and fight against viruses and other diseases. Any reduction of additional bee stressors related to pesticide exposure will greatly improve honey bee survivability.

Knowing where managed honey bee colonies are located is an important factor in the ability to avoid colony exposure to pesticides. By communicating and by discussing hive placement, applicators and beekeepers can work together to employ special practices to protect them. Limiting pesticide applications to low activity periods (e.g., spraying in evening hours) in areas where colonies are known to be present will help reduce incidences of pesticide exposure to honey bees. Notifying beekeepers when spraying is going to happen, and allowing them time to move or net hives, will also be helpful.





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BeeCheck is a voluntary communication tool that enables beekeepers and pesticide applicators in New Mexico to work together to protect apiaries through a mapping program. While not a substitute for state regulatory requirements, **Beecheck** is a no-cost apiary registry service provided by **FieldWatch, Inc.** Coupled with an active public education program, the website can also be used for location of honey bee colonies in urban areas that are vulnerable to non-agricultural pesticide use.

Pesticide User Challenges

Growers and applicators encounter a number of challenges in their day-to-day operations. Growers have to manage insect pests, diseases, weeds and other factors that affect crop production. Growers have a variety of pest management tools and strategies to choose from. They often need to affordably eliminate pests and competing plants without impacting yields.

Pesticide applicators often have a limited time frame to make an application. Factors such as infestation levels, temperature, precipitation, wind, water levels, buffers, and the presence of pollinators all affect pesticide choices and decisions on when, where and how to make an application. Applicators also must pay attention to the location of sensitive sites adjacent to treatment sites, such as surface water, endangered species, organic fields, vineyards and honey bee colonies. The best time to make an application often coincides with when pollinators are most active, putting applicators in a difficult position of balancing pest management needs while protecting pollinators.

Growers also must consider the timing of pesticide applications with respect to harvest and rotational intervals. Even with integrated pest management (IPM), pests are often able to adapt quickly to different methods, rotations, or pesticides, or reproduce so quickly that they proliferate. Adaptability and quick reproduction of such pests makes timely chemical applications essential to an IPM plan.





Beekeeper Best Management Practices

Improve Pollinator Habitat

- ✓ Place honey bees where they will find flowers during the whole forage season, or be ready to supplement their diet with protein and carbohydrates.
- ✓ Create and encourage others to create more forage.
- ✓ Ensure that water is available.

Work with Landowners to Choose Apiary Locations

- ✓ Obtain permission from growers/landowners before placing honey bee colonies.
- ✓ Avoid low spots to minimize drift.
- ✓ Coordinate dates in and out to ensure access.
- ✓ Discuss with landowners preferred roads/trails to use.
- ✓ Acquire contact information in order to have necessary communication among growers, beekeepers and neighbors.
- ✓ Ask to be notified of any pesticide applications and be prepared to move hives or net hives if necessary.
- ✓ Register hives on Driftwatch.





Be Aware of Neighboring Landowners when Placing and Moving Honey Bee Colonies

- ✓ Ensure that colonies have access to water in locations away from people or livestock.
- ✓ Do not place colonies close to shared roads, trails or section lines to avoid problems with neighbors.
- ✓ Notify landowners and applicators when arriving and moving colonies.

Work with Applicators when Notified of Upcoming Pesticide Applications

- ✓ Have frequent and open communication with growers and applicators regarding spraying and other practices that might damage honey bees; engage in finding solutions.
- ✓ Block, move or net hives when informed of a pesticide application. Alternatively, work with applicators on ways to manage pests while minimizing pesticide exposure to honey bees (e.g., spraying in the evening or pre-dawn).

Report Possible Pesticide-Related Bee Incidents

- ✓ Report all suspected pesticide-related bee incidents to the New Mexico Department of Agriculture (NMDA) Pesticide Management Division. This will allow NMDA inspectors quick turnaround on collection of samples for analysis. They will also generate a notification to the EPA National Pesticide Information Center. Contact the NMDA Pesticide Management Division at: [Website](#) NMDA pesticides compliance and applicator licenses (nmsu.edu) and contact the Program Specialist for Enforcement at 575-646-2678.
- ✓ Beekeepers must rule out other possible causes of a bee kill (e.g., viruses due to high varroa levels) prior to contacting NMDA when they suspect that a pesticide has caused





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the bee kill. Tell inspectors about any mite treatments or other chemicals that have been used inside the hive over the past year and have labels ready if requested. This will help NMDA rule out potential issues with in-hive products.

Use Registered Pesticides According to Label

- ✓ Use only legal products for controlling pests and diseases, and use them correctly. Misuse can harm bees, contaminate honey and wax, and cause pest and disease resistance.
- ✓ Contact NMDA Pesticide Management Division with any questions on pesticide labeling to determine whether a pesticide is registered for distribution in the state.

Comply with all Requirements of New Mexico and Local Beekeeping Law

- ✓ Commercial beekeepers must register the location of each apiary under their control and give an accurate description of their locations.
- ✓ Mark hives with registered identification numbers, or other identification.

Ensure Hives are Easily Visible to Applicators

- ✓ Paint hives white or a color that stands out from the surrounding area.

Landowner/Grower Best Practices Management

Work with Beekeepers to Choose Apiary Locations





- ✓ Be mindful of the placement of apiary sites where farming activity will occur.

Communicate with Renters about Bee Issues

- ✓ Landowners and renters should discuss who has the authority to allow bees, how long they will be allowed, and colony placement.

Communicate Pesticide Issues

- ✓ When contracting with commercial pesticide applicators, establish understanding about who is responsible for identifying apiary locations, and who will be communicating with beekeepers.

Agronomists: Consider Pollinator Impacts when Making Pesticide Recommendations

- ✓ Consider spray timing, location and communication with beekeepers when apiary sites are adjacent to your property.
- ✓ Blooming weeds, such as dandelion or mustard, in the treatment area are attractive to bees in early spring when they will fly several miles to obtain pollen and nectar.
- ✓ Learn the pollination requirements of crops, if and when they are attractive to bees, and plan pest control operations with bee hazards in mind.
- ✓ Consider using alternatives to pesticides outlined by an Integrative Pest Management plan. Work with Cooperative Extension offices to identify alternative products registered for use in New Mexico that may be safer for pollinators.





Plant Bee Forage

- ✓ Plant flowering plants, such as trees and shrubs, to improve bee forage.
- ✓ Add flowering plants to cover crop mixes.

Pesticide Applicator Best Management Practices

Use Integrated Pest Management (IPM)

- ✓ Utilize economic thresholds and IPM to determine if insecticides are required to manage pests.
- ✓ When insecticides are indicated, choose those with low toxicity to bees, short residual toxicity, or which contain repellent properties.

Use Registered Pesticides According to the Label

- ✓ Pesticide label language is developed to ensure that pesticides will not pose risk of adverse effects to human health or the environment.
- ✓ Many pesticides, especially insecticides, have use restrictions prohibiting applications when bees are foraging in the treatment area. Check labels that prohibit applications when crops are blooming.
- ✓ Comply with labels even when following other BMPs.

When Possible, Apply Pesticides Early in the Morning or Late Evening





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- ✓ Pesticides applied early in the morning or in the late evening when bees are less active reduces chances that bees will be foraging in or near the treatment site.
- ✓ Be aware of temperature restrictions on pesticides.
- ✓ Be aware of temperature inversions before choosing the time for applications.

Avoid Drift

- ✓ Pesticide drift is the off-site movement of pesticides through the air from the treatment site to adjacent areas, either in the form of mist, particles, or vapor. Drift reduces the effectiveness of the chemical applied as only part of the applied amount reaches the target. Drifting insecticides also pose risks to non-target organisms that encounter the off-target residues. These insecticides can harm bees and other beneficial insects by direct contact or by contaminating their forage and habitat. Drifting herbicides further reduce quality forage available to pollinators.
- ✓ Create windbreaks to prevent drift from fields.

Notify Beekeepers in the Area Before Pesticide Applications

- ✓ Honey bees will fly several miles to find quality forage. Pesticide applicators should notify known beekeepers within two miles of a site to be treated at least 48 hours before application or as soon as possible. Use [FieldCheck](#) to identify registered apiary sites.
- ✓ Timely notification will help ensure ample time for the beekeeper and applicator to develop a mutually acceptable strategy to manage pests while mitigating risk to honey bees. This may include covering hives, moving hives, or choosing the time of day to apply.





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Choose Products with Lower Risk to Honey Bees

- ✓ Many insecticide labels prohibit use if pollinators (bees) are present in the treatment area.
- ✓ If a label states that a product is harmful to honey bees, it can be assumed that it is also harmful to native bees.





Resources and References

Washington State University

[Washington State Managed Pollinator Protection Plan for Alfalfa Seed Production](#)

Bee Informed Partnership

<https://beeinformed.org/>

Honeybee Health Coalition – Tools for Varroa Mite Management

<https://honeybeehealthcoalition.org> [Tools for Varroa Mite Management](#)

Oregon State University – How to Reduce Bee Poisoning from Pesticides

<https://catalog.extension.oregonstate.edu/pnw591> Pollinator Partnership

<http://www.pollinator.org/>

USDA Natural Resources Conservation Service





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Insects & Pollinator

USEPA Pollinator Protection

<https://www.epa.gov/pollinator-protection>

Xerces Society for Invertebrate Conservation

[How Neonicotinoids Can Kill Bees](#)

[Recommendations to Protect Pollinators from Neonicotinoids](#)

Justia

[New Mexico Bee Law](#)

