



Managed Pollinator Protection Plan (MP³)



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Introduction

The Department of Agriculture recognizes that the health of pollinators is beneficial to agriculture food production and the environment. The department also recognizes the benefits of using crop-protection chemicals to manage pests and diseases that adversely affect crop production. It has become apparent that there is a growing need for a balanced public policy that encourages practices that reduce the risks of agricultural practices that affect pollinators without having an unreasonable impact on the efficiency of agricultural production in Montana.

The primary focus of this plan is to improve interaction between commercial managed beekeepers, landowners and applicators. There is good evidence that the management practices specified below will also benefit native pollinators. Practical considerations, including both financial considerations and the difficulty of evaluating native pollinator populations dictate that the initial focus of our efforts should be to protect managed pollinators and increase communication and cooperation among beekeepers and pesticide applicators.

What follows are best management practices and suggestions to encourage and facilitate communication between beekeepers and agricultural producers, two groups with many interests in common but who sometimes find themselves at odds especially over crop-protection chemicals and land use issues. These are not regulatory requirements, and they do not take the place of or in any way relieve applicators from the legal requirement to follow the pesticide product label.

Bees are necessary for pollination of about two-thirds of agricultural crops currently in

production. Without these crops to feed on, honey bee populations would not be sustainable at their current levels. The goal of this plan is not to eliminate pesticide use where bees might be foraging. Nor is it reasonable to require moving bee hives every time there is a pesticide application in the area. All of the requirements currently present on pesticide product labels will remain in force. But regulatory action and enforcement alone will not resolve the conflicts between beekeepers and producers. Instead, we must focus on the areas where their interests coincide (healthy bees and successful pollination) in order to mitigate conflicts in areas where they do not (*e.g.*, pesticide use).

This Managed Pollinator Protection Plan (MP³) contains guidelines for pesticide users, landowners/growers, and beekeepers in hopes of creating the following positive outcomes:

- ❖ Ensuring positive relationships and peaceful co-existence among beekeepers, landowners, and pesticide applicators through cooperation.
- ❖ Improving communication between landowners, beekeepers, and applicators which will minimize the effects of chemical use on pollinators.
- ❖ Reducing pesticide exposure and subsequent risk of pesticides to managed and native pollinators.
- ❖ Ensuring both a robust apiary industry and agricultural economy.
- ❖ Continued high compliance with state pesticide and apiary requirements.

Guidelines for Pesticide Users

- **Observe all pesticide label directions and adhere to the requirements of the Montana Pesticide Act.** For assistance in determining the best management practices to use in your situation, consult your local department of Agriculture Specialist, MSU Extension Agent, Montana State University Apiary Specialist, Crop Consultant or Chemical Representative.
- **Use Integrated Pest Management (IPM).** Utilize economic thresholds and IPM to determine if insecticides are needed to manage pests. Choose insecticides with low toxicity to bees, short residual toxicity and/or repellent properties toward bees.
- **Apply pesticides early in the morning or in the evening.** Pollinators are most active during daylight hours and when the temperature is over 55 degrees Fahrenheit. Pesticides on plant surfaces become significantly less toxic to non-target organisms as they dry. An early-morning application allows drying to occur before bees start foraging. Similarly, a late-afternoon or evening application allows for several hours of drying, incorporation, and breakdown of the chemical before pollinators begin foraging the next day. All of these factors reduce the biological availability of the material to foraging honey bees and other pollinators. Be cognizant of temperature restrictions on pesticides. The efficacy of some pesticides is reduced at certain temperatures and be aware of temperature inversions when choosing the best time for application.
- **Avoid drift.** Pesticide drift is the off-site movement of pesticides through the air from the treatment site to adjacent areas, in the form of a mist, particles, or vapor. Drift reduces the effectiveness of the application since only part of the applied amount reaches the target. Drifting chemicals also pose a risk to non-target organisms that come in contact with the off-target residues. Insecticides that have drifted can negatively affect bees as well as other beneficial insects either by direct contact or by contaminating their habitat. Drifting herbicides have the potential to further reduce quality forage available to pollinators.
- **Identify and notify beekeepers in the area prior to pesticide applications.** Bees will fly several miles to find quality forage. Therefore, pesticide applicators should identify and notify beekeepers within two miles of a site to be treated at least 48 hours prior to the application or as soon as possible. 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.

****Notifying beekeepers does not exempt applicators from complying with the pesticide label restrictions. Many insecticide labels prohibit their use if managed pollinators or honey bees are foraging in the treatment area.***

- **Use registered pesticides according to the label.** Pesticide label language is developed to reduce risk and unreasonable adverse effects to humans and the environment. Failure to comply with the label is illegal and puts humans and the environment at risk. Many pesticides, especially insecticides, have use restrictions prohibiting applications when bees are foraging in the treatment area, or applications that

may leave harmful residues. Some labels prohibit applications when crops are blooming and require that the applicator notify beekeepers in the area prior to application. Always comply with these and other label restrictions to reduce risks. Applicators are bound by all directions, precautions and restrictions on pesticide labeling. Contact the Montana Department of Agriculture or the product manufacturer with any questions on pesticide label language. Observe key pesticide label icons. Pesticide labels are required to carry specific warnings on the labels to alert the pesticide user of the risk to pollinators (see below).

THE NEW EPA BEE ADVISORY BOX

On EPA's new and strengthened pesticide label to protect pollinators

PROTECTION OF POLLINATORS

APPLICATION RESTRICTIONS EXIST FOR THIS PRODUCT BECAUSE OF RISK TO BEES AND OTHER INSECT POLLINATORS. FOLLOW APPLICATION RESTRICTIONS FOUND IN THE DIRECTIONS FOR USE TO PROTECT POLLINATORS.

Look for the bee hazard icon in the Directions for Use for each application site for specific use restrictions and instructions to protect bees and other insect pollinators.

This product can kill bees and other insect pollinators. Bees and other insect pollinators will forage on plants when they flower, shed pollen, or produce nectar.

Bees and other insect pollinators can be exposed to this pesticide from:

- Direct contact during foliar applications, or contact with residues on plant surfaces after foliar applications
- Ingestion of residues in nectar and pollen when the pesticide is applied as a seed treatment, soil, tree injection, as well as foliar applications.

When Using This Product Take Steps To:

- Minimize exposure of this product to bees and other insect pollinators when they are foraging on pollinator attractive plants around the application site.
- Minimize drift of this product on to beehives or to off-site pollinator attractive habitat. Drift of this product onto beehives can result in bee kills.

Information on protecting bees and other insect pollinators may be found at the Pesticide Environmental Stewardship website at: <http://pesticidestewardship.org/pollinatorprotection/Pages/default.aspx>

Pesticide incidents (for example, bee kills) should immediately be reported to the state/tribal lead agency. For contact information for your state/tribe, go to www.epa.gov. Pesticide incidents can also be reported to the National Pesticide Information Center at: www.npic.orst.edu or directly to EPA at: beekill@epa.gov

Alerts users to separate restrictions on the label. These prohibit certain pesticide use when bees are present.

The new bee icon helps signal the pesticide's potential hazard to bees.

Makes clear that pesticide products can kill bees and pollinators.

Bees are often present and foraging when plants and trees flower. EPA's new label makes it clear that pesticides cannot be applied until all petals have fallen.

Warns users that direct contact and ingestion could harm pollinators. EPA is working with beekeepers, growers, pesticide companies, and others to advance pesticide management practices.

Highlights the importance of avoiding drift. Sometimes, wind can cause pesticides to drift to new areas and can cause bee kills.

The science says that there are many causes for a decline in pollinator health, including pesticide exposure. EPA's new label will help protect pollinators.

Read EPA's new and strengthened label requirements: <http://go.usa.gov/jHH4>

- **Choose pesticide products with a lower risk of harming managed pollinators.** Avoid dusts and wettable powder insecticide formulations. These formulations can leave a powdery residue which sticks to hairs on bees. Bees then bring the pesticide back to the hive which will expose the entire hive to the pesticide for an unknown amount of time. Granular and liquid formulations are safer for pollinators since granules are not typically picked up by bees, and liquids dry onto plant surfaces. Choose products with lower residual toxicity to bees.
- **Keep up with label changes and other information.** Labels change as new information is discovered. Use and precautionary statements may be added or removed with each new shipment of the pesticide product.
- **Minimize pesticide exposure to managed pollinators regardless of the label statements.** Minimize all pesticide exposure, particularly to managed honey bees. Almost all product testing is performed on adult insects. Social insects like honey bees, have almost all of their life stages (eggs, larvae, pupae, and adults) present throughout the year. Because they are still growing, younger life stages are more susceptible to chemical exposure than adult insects. Many herbicides and all of the insect growth regulators have significant effects on larvae, and on honey bee queens.

Guidelines for Landowners/Growers

- **Work with beekeepers to choose hive locations.** Ideal locations for hives will have minimal impact on farming/ranching operations, but will still allow bees to access forage and water. Communicate with beekeepers which roads/trails can be problematic when wet and any preferred traffic routes. Landowners may also want to provide contact information for applicators, renters, and neighbors.
- **Communicate with renters about bee issues.** Renting land for agricultural production is a common practice. Landowners and renters should discuss managed bee issues, such as who has authority to allow bees on the landowners' property, how long they will be allowed and bee hive placement. These should be addressed and included when rental agreements are negotiated.
- **Communicate with pesticide applicators making it easier to locate hives.** When contracting with commercial pesticide applicators, make sure that there is a clear understanding of who has the responsibility to identify hive locations and communicate with beekeepers. Applicators may do this as part of their standard procedures, but some landowners may prefer to make beekeeper contact themselves.
- **Agronomists should consider pollinator impacts when making pesticide recommendations.** Ensure that agronomists and crop consultants consider pollinator issues when making pesticide recommendations, including produce choices and pesticide timing decisions. Request pesticides with low toxicity to minimize the effects and protect bees and other pollinators.
- **Utilize alternatives to talc/graphite in planters.** When planting seeds treated with insecticides, utilize alternatives to talc/graphite as they become available. Talc and graphite can abrade the insecticide treatment of the seeds, creating insecticide-containing dust that can drift onto hives and flowering plants causing death to bees.
- **Plant bee forage.** Plant flowering plants, trees, and shrubs to improve bee forage, especially in non-farmable or non-crop areas. Doing so provides necessary forage for bees and it may also concentrate bees away from fields to be treated with pesticides, possibly minimizing impacts to pollinators. Many pesticide labels require untreated vegetative buffer strips around sensitive sites. Landowners can plant flowering plants in buffer strips to provide additional bee forage. If planting cover crops, add flowering plants into the mix. Even a small percentage of flowering plants can provide a considerable amount of forage for pollinators.

Guidelines for Beekeepers

All commercial apiary sites must be registered with the Montana Department of Agriculture per 80-6-102(1), Montana Code Annotated and associated Administrative Rules of Montana (ARM 4.12.101 through 111) Apiary Site locations for beekeepers and landowners can be found at:
<https://mtplants.mt.gov/Index.aspx>

- **Work with landowners to choose hive locations.** Ideal hive locations will have minimal impact on agricultural activities but will still provide adequate access to forage and water. Avoid low spots to minimize impacts from drift or temperature inversions that will impact the hive location. Most landowners also have preferred routes of travel on their property, especially after rains or during particular agricultural operations (harvest, calving, etc.) so plan accordingly when choosing hive locations. Because of the use of smokers and the need to burn hives infected with American foul brood, fire safety is also an important consideration. It may also be prudent for the beekeeper to request contact information for nearby applicators, renters, casual land users such as hunters or fishermen, and neighbors.
- **Be aware of neighboring landowners when placing and moving hives.** Neighboring landowners often use the same roads, trails and section lines. Do not block these right-of-ways or place hives so close they may cause problems for the other land-users. Take appropriate steps to ensure that bees do not negatively affect operations of neighboring

landowners and consideration should be given to the yards, stock watering areas, equipment, or storage sites.

- **Work constructively with applicators when notified of upcoming pesticide applications.** One of the recommended guidelines for pesticide users is to contact nearby beekeepers prior to making pesticide applications. Block, move or net hives if possible when applicators inform you they are going to apply pesticides, or find other strategies to allow pesticide applicators to manage pests while minimizing pesticide exposure to bees.
- **Notify landowners and applicators when arriving and moving hives.** If possible, notify nearby pesticide applicators and landowners when you place or move beehives. This will ensure they are aware of current hive locations and can notify you before making pesticide applications. Contact information for nearby pesticide applicators can usually be obtained from landowners.
- **Obtain landowner permission for hive placement every year, keep in contact, and comply with all the requirements of Montana beekeeping law.** Properties change hands more often than we expect, even in rural areas, and it is not uncommon for new landowners to be quite surprised when “new” beehives suddenly show up at the beginning of the season. Personal contact prior to the actual hive placement will keep everyone informed and prevent the apiary site from being perceived as a nuisance. Landowners

should notify the MDA when there is an ownership change or if bee site location information changes so that all location information is accurate and making notification easier.

- **Use registered pesticides according to the label.** When pesticide use is necessary to manage pests inside hives, use registered pesticides and comply with all restrictions, precautions, and directions found on the pesticide label. Failure to comply with label directions may decrease the effectiveness of pesticides, increase the risk of adverse effects to bees, and cause unsafe pesticide residues in honey and other products. There are already credible reports of resistance to

even the newest pesticide registered for *Varroa* control (Amitraz), for example. Contact the MDA pesticide program with any questions on pesticide labeling or to determine whether a pesticide is registered for use in Montana.

- **Ensure hives are easily visible to applicators.** Hives must be visible so applicators can locate them before spraying. It is strongly suggested that hives are painted a color that stands out from the surrounding area. **Montana law requires that each apiary site be labeled with the beekeeper's name and contact information.** This also helps pesticide applicators contact beekeepers so that hives can be protected from pesticide exposure.

Supporting Pollinator Forage and Habitat

Pollinator Forage: Everyone can plant forage for pollinators. Plants that support pollinators are also beneficial for other wildlife, are often visually attractive, and can help improve soil health. Flowers are important for pollinators, but they also utilize trees, shrubs, and other less-noticeable plants for pollen and nectar sources and nesting habitat. It is important to consider diversity when choosing plants to ensure adequate forage for the entire growing season. Diversity will also ensure pollinators have access to all of the nutrients they require to be healthy. Here are some easy, efficient ways to improve pollinator forage:

- **Municipalities:** can plant trees, shrubs and flowers that provide good forage for all types of pollinators. Diversity is important: the pollen and nectar of each species carries a different nutrient load for the pollinators. This can be worked into new plantings, every time a plant is added or replaced choose a variety that will contribute to pollinator forage. Foraging honey bees are typically not aggressive.
- **Counties:** can create bee forage and habitat along secondary roads. Secondary road ditches often contain several species of plants that provide forage and habitat for pollinators. It is a common practice to mow ditches for the safety of motorists and to prevent

drifting snow. Consider spot spraying noxious weeds and mowing ditches at a higher height or later in the year to ensure that bee forage and habitat is available. Incorporate short forbs into secondary road ditches to minimize attracting large wildlife.

- **Homeowners:** can put out flower pots, create flowerbeds, plant trees or shrubs, or establish gardens to provide forage and habitat. Homeowners should also take special precaution when applying pesticides. The pesticide user guidelines apply to anyone using pesticides. Remember, the pesticide label is the law and it is in place to minimize risk to the environment and human health.
- **Create habitat for beneficial wild pollinators:** Roughly 70 percent of native bees nest in the ground. They burrow into areas of well-drained, bare, or partially vegetated soil. Other bees nest in abandoned beetle tunnels in snags or in soft centered, hollow twigs and plant stems. Native bees will also utilize dead trees and branches. Habitats can be created by leaving deadfalls and brush piles as nesting habitat. Consider the type of habitat you wish to create and pollinators you want to attract. Be aware that certain structures may attract other animals such as fox, coyote, skunks, and porcupines.

Conclusion

The focus of this plan is to encourage cooperation and communication among pesticide users, landowners/growers and managed beekeepers. Both elements are crucial for the productive coexistence of commercial agriculture and managed bees. The Department of Agriculture is committed to working with both agriculture producers and managed beekeepers in an effort to encourage improved communication and maintain healthy industries.