



# Virginia's Voluntary Plan to Mitigate the Risk of Pesticides to Managed Pollinators



*VIRGINIA DEPARTMENT  
OF AGRICULTURE AND  
CONSUMER SERVICES*





## Background

In June of 2014, federal departments and agencies were tasked with taking new steps to reverse pollinator losses and help restore pollinator populations. To accomplish this effort, the Pollinator Health Task Force was created. Co-chaired by the Secretary of Agriculture and the Administrator of the U.S. Environmental Protection Agency (EPA), the Task Force included representatives from a wide variety of departments and agencies that were directed to undertake agency-specific actions and to identify opportunities and initiatives to address the issue of pollinator health.

As part of this effort, the EPA was directed to engage state agencies for pesticide regulation in the development of state pollinator protection plans as a means of mitigating the risk of pesticides to honey bees and other managed, not wild, pollinators. In Virginia, the state lead agency for pesticide regulation is the Virginia Department of Agriculture and Consumer Services (VDACS). VDACS has been engaged by EPA to develop a managed pollinator protection plan specific to Virginia.

“Virginia’s Voluntary Plan to Mitigate the Risk of Pesticides to Managed Pollinators” (Plan) is a set of voluntary recommendations and best management practices intended to increase protection of managed pollinators from pesticides while allowing effective control of pests that adversely affect crops, structures, public health and domestic animals. Virginia’s Plan facilitates a collaborative approach to implementing risk mitigation practices for beekeepers and pesticide applicators and encourages effective communication between individuals making pesticide applications (or their designees) and those engaged in beekeeping. The Plan includes practices that mitigate potential pesticide exposure to honey bees and other managed pollinators, allowing for the effective management of pests and avoiding situations of unnecessary conflict between these parties. VDACS developed Virginia’s managed pollinator protection plan in cooperation with relevant stakeholders, including farmers, commercial and private pesticide applicators, beekeepers, Virginia Cooperative Extension, Virginia Tech and industry groups.

Virginia’s Plan is one component of the *Virginia Pollinator Protection Strategy* (Strategy). The Strategy, which was passed by the 2016 General Assembly, directs VDACS to develop and maintain strategies which: i) promote the health of and mitigate the risks to all pollinator species and ii) ensure a robust agriculture economy and apiary industry for honey bees and other managed pollinators. The decline of managed pollinators is not due to one factor alone, rather a number of variables including, but not limited to, parasites (example: Varroa mite) and other pests, pathogens, poor nutrition, failing queens, pesticide contamination and the narrowing genetic base of honey bees. The Strategy focuses not only on communication between beekeepers and pesticide applicators, but also supports increases in pollinator habitat as well as research, education and outreach about pollinators.

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Managed pollinators primarily include honey bees (*Apis mellifera*), but may also include other species of bees, such as alfalfa leafcutting bees (*Megachile rotundata*), alkali bees (*Nomia melanderi*), mason bees (*Osmia lignaria*) and some species of bumble bees (*Bombus impatiens*). For the purposes of Virginia’s Plan, the term “managed pollinators” refers to honey bees and includes commercial and noncommercial (sideliners and hobbyists) beekeeping operations. Commercial beekeeping refers to those operations with greater than 300 colonies; sideline beekeeping refers to operations with 50 – 300 colonies; and, hobbyist beekeeping refers to operations with 1 – 50 colonies. VDACS anticipates that mitigating the risk of pesticides to managed pollinators will also reduce the risk to native bees and other pollinators.



According to the Agency's 2006 Report to the Governor and General Assembly, *Study of the Plight of Virginia's Beekeepers* (Senate Document No. 20), approximately 8 percent of beekeepers are sideline beekeepers and 90 percent of beekeepers in Virginia are considered hobbyist. Virginia's Plan includes hives maintained by commercial, sideline and hobbyist beekeepers and applies to outdoor agricultural and commercial non-agricultural pesticide applications that have the potential to adversely impact managed pollinators in urban, suburban and rural areas including public health, turf and ornamental; right of way; forestry; agricultural and exterior structural pesticide applications. The Plan relies on the communication and cooperation between the pesticide applicator and the beekeeper to determine the best method of providing notification regarding planned pesticide applications that have the potential to adversely impact managed pollinators. This communication and cooperation should enable beekeepers to make informed decisions regarding the appropriate measures necessary to protect their hives.

The Plan does not include pesticide applications where bees are the target pest, such as bees infesting a structure. In addition, the Plan does not include applications for which the potential for exposure of bees to pesticides is minimal or does not exist, (example: all indoor applications, soil injection, fumigation, as well as certain outdoor applications, such as the use of rodenticides). In addition, the Plan does not include contracted pollination services at the site of application. Contracted pollination services result in a relatively large number of bees intentionally placed in or near the crop production area that may be treated and are therefore more likely to be directly exposed to pesticides during an application. The EPA, through the federal pesticide registration process, is considering additional label restrictions on a broader range of pesticide products in an effort to protect managed bees under contracted pollination services from the potential acute hazards of insecticides. Therefore, contracted pollination services are not addressed in the Plan.

Virginia's Plan is not intended to prohibit, eliminate or further restrict the application of pesticides, but rather reduce the risk of pesticide exposure to managed pollinators when pesticides are used nearby or within their normal foraging range. In all cases, pesticide applications must be made in accordance with the pesticide label and all applicable federal and state pesticide laws and regulations. For a list of terms used in the Plan along with their definitions, please see Appendix A.

## Stakeholder Participation

The input and cooperation of all stakeholders was integral to the development of Virginia's Plan. VDACS hosted seven listening sessions at various locations throughout Virginia in an effort to obtain input from interested parties. The intent of the listening sessions was to seek input from stakeholders on the critical elements included in the Plan. In addition, a dedicated email account was established for receiving stakeholder comments regarding the elements of the Plan. Approximately 450 agricultural producers, beekeepers, private and commercial pesticide applicators, landowners, researchers and Virginia Cooperative Extension agents participated in these listening sessions. In addition to the verbal comments received during the listening sessions, 169 written comments were also received.

## Plan Implementation

VDACS will encourage participation in Virginia's Voluntary Plan to Mitigate the Risk of Pesticides to Managed Pollinators and utilize a variety of outreach methods to inform stakeholders and other interested parties of the Plan. Outreach methods include VDACS press releases, posting on the VDACS website, direct distribution to industry and beekeeper associations, and presentations at pesticide industry and beekeeper association



meetings. In addition, VDACS will collaborate with Virginia Cooperative Extension in an effort to include information regarding the Plan in certification and recertification courses for pesticide applicators and other meetings (example: field days). Other outreach activities will include training in the use of the online communication tool and development of audience-appropriate fact sheets, information pages and brochures for homeowners and other interested parties.

## Communication and Coordination Between Beekeepers and Pesticide Applicators

A key component of the Plan is timely and voluntary communication and coordination among key stakeholders, including beekeepers and agricultural and commercial non-agricultural pesticide applicators.

Pesticide applicators need accurate and timely information on the location of nearby hives if they are to communicate with beekeepers regarding pesticide applications. Similarly, beekeepers need accurate information regarding the application of pesticides that have the potential to adversely impact a colony(s) in order to determine measures they will take to protect their hives.

- A. Communicating the Location of Hives – Beekeepers should provide agricultural and commercial non-agricultural pesticide applicators and agricultural producers with information regarding the location of hives so that notification of upcoming pesticide applications can be made. When communicating with pesticide applicators regarding the location of hives, beekeepers are encouraged to:
  1. Provide complete contact information, including the preferred method of communication.
  2. Provide the number and specific location of all hives.
  3. Provide timely updates regarding new hive locations, including hives that have been moved or those locations that are no longer being used.
  
- B. Communicating Upcoming Pesticide Application – Many factors may impact the ability of a pesticide applicator to provide advance notification of pesticide applications. When feasible, agricultural and commercial non-agricultural pesticide applicators should provide beekeepers with advance notice of applications which have the potential to adversely impact managed pollinators in urban, suburban and rural areas. When communicating with beekeepers regarding an upcoming pesticide application, pesticide applicators are encouraged to:
  1. Provide advance notification of pesticide applications to beekeepers as soon as possible in order for beekeepers to take actions to protect their hives.
  2. Provide complete contact information including the preferred method of communication.
  3. Provide information regarding the pesticide being applied including the product name, EPA Registration Number and planned time of application. The EPA Registration Number serves as a unique identifier for the product applied. Information regarding those pesticides which are registered in Virginia can be found at <http://www.vdacs.virginia.gov/pesticide-product-registration.shtml>.

Beekeepers and pesticide applicators can communicate by many methods. For example, a visible marker such as a flag could be used to identify the location of hives. Another option may include meeting the beekeepers or pesticide applicators in your area and exchanging information. The beekeeper and pesticide applicator together should determine the best method of communication.

To facilitate and encourage the voluntary exchange of information, an online technology based communication tool will be made available by VDACS to all stakeholders. The online communication tool will allow beekeepers to indicate the location of their beehives and provide the contact information which is



needed by the agricultural and commercial non-agricultural pesticide applicator when informing the beekeeper of an anticipated pesticide application. It will also allow the opportunity for agricultural producers to record the location and type of crops in production and provide the contact information needed by the beekeeper when determining the potential location for an apiary. The online communication tool will be administered by VDACS staff, with access to the information limited to registered users. Registered users include those beekeepers, pesticide applicators and agricultural producers who elect to use the online communication tool. In addition, an annual renewal by users will be required to ensure the most accurate information is available for registered users.

## Guidelines for Protecting Pollinators

In addition to communication and coordination between beekeepers and pesticide applicators, Virginia's Plan also provides general guidelines that can be implemented by beekeepers, pesticide applicators, agricultural producers and landowners with the goal of reducing the potential for pesticide exposure to managed bees that are adjacent to or near a pesticide treatment site, as bees may be exposed to pesticides when foraging in the treatment site, flying through treatment sites to nearby foraging areas or via drift. The general guidelines for protecting pollinators for beekeepers, pesticide applicators, agricultural producers, and landowners are included in Appendix B.

## Best Management Practices

More specific Best Management Practices (BMP) for beekeepers and pesticide applicators were developed by the respective stakeholder groups and are available on the VDACS website at <http://www.vdacs.virginia.gov/plant-industry-services-pollinator-protection-plan.shtml>.

## Periodic Review

Virginia's Voluntary Plan to Mitigate the Risk of Pesticides to Managed Pollinators will undergo annual agency review. VDACS will seek stakeholder input as needed to ensure the Plan remains relevant and meets the unique needs of Virginia's agricultural producers, landowners, pesticide applicators, beekeepers and others using managed pollinators.

## Measuring Effectiveness of the Plan

The effectiveness of the Plan will be measured utilizing various survey instruments and include the following metrics:

1. Awareness of the Plan by agricultural producers, landowners, pesticide applicators and beekeepers;
2. Number of registered users of the online communication tool;
3. Number of beekeepers who were contacted by agricultural producers, landowners and pesticide applicators prior to the application of pesticides;
4. Number of agricultural producers, pesticide applicators and landowners who have adopted or implemented one or more of the Plan's Guidelines for Protecting Pollinators or Best Management Practices;



5. Number of beekeepers who have adopted or implemented the Plan's Guidelines for Protecting Pollinators or Best Management Practices;
6. The number and types (agricultural or non-agricultural) of cases in which an enforcement action was taken for use of pesticide in a manner inconsistent with specific pollinator protection label language; and
7. Number of VDACS pollinator protection webpage and BMP page views.

## Agency Contact Information

Should you have any questions or need additional information, please contact:

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## Select Resources

United State Environmental Protection Agency - Protecting Bees and Other Pollinators from Pesticides  
**<http://www2.epa.gov/pollinator-protection>**

VDACS Office of Pesticide Services **<http://www.vdacs.virginia.gov/pesticides.shtml>**

VDACS Office of Plant Industry Services **<http://www.vdacs.virginia.gov/plant-and-pest.shtml>**

Best Management Practices can be found on the VDACS website at:  
**<http://www.vdacs.virginia.gov/plant-industry-services-pollinator-protection-plan.shtml>**



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## APPENDIX A

### Definitions

**Adverse Impact** – impacts that significantly affect the health or survival of honey bee colonies or foraging bee populations

**Agricultural Producer** – person who produces an agricultural commodity including any plant or part thereof, animal or animal product primarily for sale, consumption, propagation or other use by man or animals

**Best Management Practices** – methods or techniques found to be the most effective and practical means in achieving an objective

**Pesticide Applicator** – any person who applies pesticides including:

1. Private Pesticide Applicator – person engaged in the production of an agricultural commodity that is certified to apply restricted use pesticides on their own land or that of their employer
2. Commercial Pesticide Applicator – person certified to apply pesticides
3. For Hire – person employed by a licensed pesticide business to make applications on others' property in exchange for compensation; includes both agricultural and non-agricultural applications
4. Not for Hire – person who uses any pesticides as part of job duties, on property owned or leased by them or their employers including government employees

**Responsible Party** – person (agricultural producer, landowner or pesticide applicator) responsible for providing advance notice of a planned pesticide application to beekeeper

## APPENDIX B

### Guidelines for Protecting Pollinators

#### A. Beekeepers

1. Inform neighbors who may be applying pesticides within one mile of hive location(s). In urban/suburban settings, inform property owners abutting the site of the hive.
2. Ensure bee health by practicing proper hive management.
3. Establish apiaries in areas where there is a reduced risk of potential pesticide exposure to managed pollinators.
4. Relocate bees when a pesticide application is scheduled. If unable to move bees, cover or restrict the flight of bees to prevent exposure to the pesticide.
5. Provide a visual indicator at the hive location.
6. Increase the availability of bee forage at your apiary site.

#### B. Pesticide Applicators

1. Read and follow all pesticide label directions including environmental hazards and precautionary statements. The EPA is now requiring a “Protection of Pollinators” advisory box on certain pesticide labels. Look for the bee hazard icon for instructions and restrictions that protect bees and other insect pollinators. The label is the law.
2. Ask agricultural producers/landowners/homeowners/occupants if they are aware of any hives in their neighborhood or in the surrounding area.
3. Provide notification of pesticide applications to known beekeepers as soon as possible after the decision has been made to apply a pesticide in order for beekeepers to take actions to protect hives.





4. Notifying beekeepers does not exempt applicators from complying with pesticide label restrictions. Many insecticide labels prohibit their use if pollinators (bees) are present in the treatment area.
5. When possible, use selective pesticides that have minimal impact on non-target species as this protects pollinators and conserves natural enemies of target species. Select pesticides with the shortest residual effect if these pesticides will result in reduced exposure. Note: Pesticide with a short residual may require multiple applications and can therefore increase the potential for exposure. A list of pesticides and their toxicity to bees is available on the VDACS website at <http://www.vdacs.virginia.gov/plant-industry-services-pollinator-protection-plan.shtml>.
6. When possible, avoid dusts and wettable powder insecticide formulations as they can leave a powdery residue that sticks to hairs on bees. In addition, ultra-low volume formulations pose an increased risk for off target movement. Granular and liquid formulations reduce the risk to pollinators since granules are not typically picked up by bees and liquids dry onto plant surfaces.
7. When possible, apply pesticides when bees are less likely to be foraging, preferably in the late afternoon and into the evening.
8. When possible, postpone pesticide applications when the wind is blowing toward bee hives or off-site pollinator habitats.
9. Be alert for visual indicators (example: flags) that indicate the presence of a hive in close proximity to application sites.

### C. Agricultural Producers

1. Implement Integrated Pest Management (IPM) practices. Utilize economic thresholds and IPM to determine if insecticides are required to manage pests. When insecticides are required and the potential for impact on managed pollinators exists, select insecticides with low toxicity to bees, short residual toxicity or repellent properties towards bees when possible. Note: Pesticides with a short residual may result in multiple applications and can therefore increase potential for exposure. A list of pesticides is available on the VDACS website at <http://www.vdacs.virginia.gov/plant-industry-services-pollinator-protection-plan.shtml>.
2. If renting land for agricultural production, the renter should discuss with the landowner the hive location(s) and specific time period which the hives will be on the property.
3. Provide information to commercial pesticide applicators regarding known beekeepers and the location of apiaries in the surrounding area.
4. When possible, utilize alternatives to talc/graphite if alternatives will result in a reduction in exposure to bees by insecticides used to treat seeds.
5. Discuss and designate who is responsible (agricultural producer, landowner or pesticide applicator) for notifying the beekeeper regarding anticipated pesticide applications.
6. Communicate with beekeepers regarding potential locations for placing bees, including providing contact information, the acreage and type of crop produced. Provide timely updates regarding the acreage and crop information as appropriate.

### D. Landowners/Homeowners

1. If renting your property to others, landowners should discuss bee issues with renters such as specific location and time period which hives will be on the property.
2. Provide information to renters and commercial pesticide applicators regarding known beekeepers and the location of apiaries in the surrounding area.