BEE FRIENDLY FARMING® HANDBOOK

Cultivating a future for pollinators

POLLINATOR PARTNERSHIP

Protect their lives. Preserve ours.

Welcome to the Bee Friendly Farming Program Handbook, an initiative provided by Pollinator Partnership. Within this document you will find the latest information on Bee Friendly Farming. For any questions, contact the Bee Friendly Farming Team at **bff@pollinator.org**

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Bee Friendly Farming®

Purpose

Bee Friendly Farming® (BFF) is a Pollinator Partnership initiative that helps farmers support pollinators on their lands. The program has clear, practical standards for sustainable farming, focusing on planting diverse forage, creating and protecting nesting areas, and using integrated pest and pollinator management to reduce pesticide risks. With its accessible application, support resources, and straightforward assessment process, BFF allows growers to invest their time and funds where they matter most: getting pollinator-friendly plants in the ground.


Lynmar Estates

History

Bee Friendly Farming ® was acquired by Pollinator Partnership in 2013 at the fifth anniversary of its existence. BFF was originally founded by Kathy Kellison in 2008 through Partners for Sustainable Pollination in order to work with growers to promote and provide pollinator habitat in agricultural landscapes. Pollinator Partnership has continued to expand and grow BFF into the program it is today.

Pollinator Partnership is dedicated to further expanding and developing this program and supporting members in providing habitat for pollinators. Originally, the goal of BFF was to incorporate as many acres as possible and manage them responsibly to welcome and sustain bees and other pollinators. It was used to raise awareness in the consumer of the importance of the efforts of responsible producers. Although this basic goal has not changed in the long history of BFF, the program has been refined, improved, and expanded to embrace a variety of approaches to responsibly support pollinators.

What Do Pollinators Need?

Between 75% to 95% of all the flowering plants on earth need help with pollination. Pollinators provide pollination services to more than 180,000 different plant species and more than 1,200 crops. This means that one out of every three bites of food you eat is there because of pollinators. In addition to the food that we eat, pollinators support healthy ecosystems that clean the air, stabilize soils, protect from severe weather, and support other wildlife. However, many pollinator populations are in decline, and this decline is attributed most severely to a loss in feeding and nesting habitats. Growers can implement best management practices to mitigate these issues to establish resilient and robust pollination systems that include managed and wild bees, critical to maximizing yield, crop quality, soil health, water retention, and long-term sustainability of most crop production. To ensure these robust pollination systems, pollinators will need:

- Diverse, preferably native, floral resources rich in pollen and nectar.
- Continuous bloom of host plants throughout the growing season.
- A mix of woody, herbaceous plants, and grasses.
- Nesting areas.
- Clean drinking water for managed honey bees.
- Areas with reduced pesticide use.

Cody Wilson

Bee Friendly Farming® Membership


Reyn Akiona

The BFF Program is designed to highlight and support farms, orchards, vineyards, ranches, and other agricultural land-use operations that promote and support pollinator health. By becoming a Bee Friendly Farming® Program member, the grower helps preserve and protect pollinator populations by implementing positive, incremental, substantiated changes on agricultural landscapes. Each Bee Friendly Farming® Program member is an essential part of keeping pollinators healthy and the food supply abundant.

BFF Program membership can be achieved either by enrollment into the BFF membership program or via third party certification. The standards for participation remain the same across these two systems, however the means of verification are accomplished differently. The steps for BFF membership are outlined in this handbook and are simple: create a BFF account and proceed to complete the BFF application. Your application responses will be used to assess your pollinator habitat and IPM practices. Based on these responses, you will be given a BFF score and placed into a BFF tier.

Bee Friendly Farming®

At Pollinator Partnership, one of our core goals is to provide science-based resources and expertise that help improve land-use practices. Our criteria are grounded in scientific principles essential to creating and sustaining pollinator habitat and management efforts. The Bee Friendly Farming Program recognizes and supports farming operations that set high standards for pollinator health. It is built on two key principles that benefit all pollinators: Habitat and IPM. These principles are demonstrated through our criteria, which call for farmers to offer diverse forage, establish and manage nesting features, ensure clean drinking water for managed honey bees, and implement thoughtful pest and pollinator management practices. For more details on the science behind these practices and the additional benefits they provide, please see the Peer-Reviewed Literature.


Cody Wilson

Bee Friendly Farming Criteria

The Bee Friendly Farming Program criteria are based on what pollinators need most. These standards correspond to the requirements for achieving BFF Tier 3 status. While not all members may meet these benchmarks immediately, they are intended to guide and inspire future habitat and pest management improvement efforts.

Forage

1. Offer forage providing good nutrition for bees on at least 3% of cropped land. Forage includes cover crops, if they are left to bloom. The percentage of forage provided cannot include crops or production.

Insectary strip along bee friendly orchard.

2. Provide an average of two blooming species of plants per season from early spring, to summer and into late autumn. A minimum of one blooming species per season is required.

Pollinator friendly cover crop in orchard.

Permanent Habitat

3. Incorporate permanent pollinator habitat, which contains pollinator forage features, equivalent to 0.5% of their total cropped area.

Establishment of hedgerow along a Bee Friendly Farm.

Water

4. Offer clean water for bees when managed honey bees are present on-site, if not inhibited by government-mandated water restrictions.

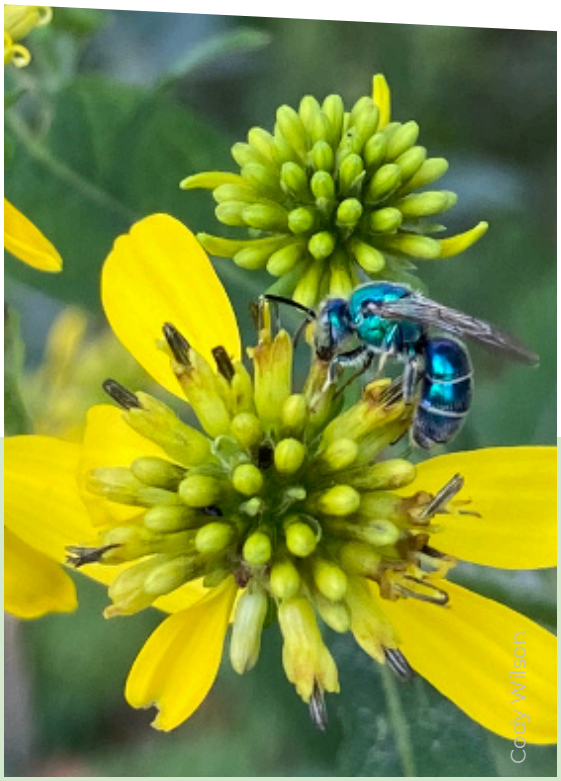
Irrigation canal providing water for pollinators.

IPM

5. Utilize Integrated Pest Management (IPM) in an effort to reduce or eliminate the use of chemicals.

Owl box installed along vineyard for pest management.

These criteria are meant to guide member efforts in creating and maintaining pollinator habitat and management practices on-farm. Reaching the benchmarks established in these criteria will seat producers with a BFF Tier 3 status. While not all members may meet these criteria immediately, all producers are welcome to join the program. BFF Tiers 1 and 2 are established for those aiming to incrementally achieve positive habitat and management growth and track their progress along their pollinator journey.



BFF scores and tier ranking will be determined by responses on the BFF application. Please take time and care with the answers on your application, as scores and tier placement will often reflect the effort put into the questionnaire. After scores and tier placements have been made, it is the responsibility of the producer to make contact with the BFF team in order to initiate any changes to the BFF score or ranking.


Cody Wilson

Forage

Pollinators require year-round resources and habitat. By planting a diversity of flowering plants that produce nectar and pollen, we can support our pollinators year-round.

The total forage must cover at least 3% of the cropped area, and include an average of two blooming species per season (spring through fall), with a minimum of one blooming species per season (spring through fall). There is no minimum land coverage per season. During the growing season, it is important to provide pollinators with alternate food sources that offer a complete diet. Both commercial honey bees and native pollinators benefit when provided with diverse food sources.

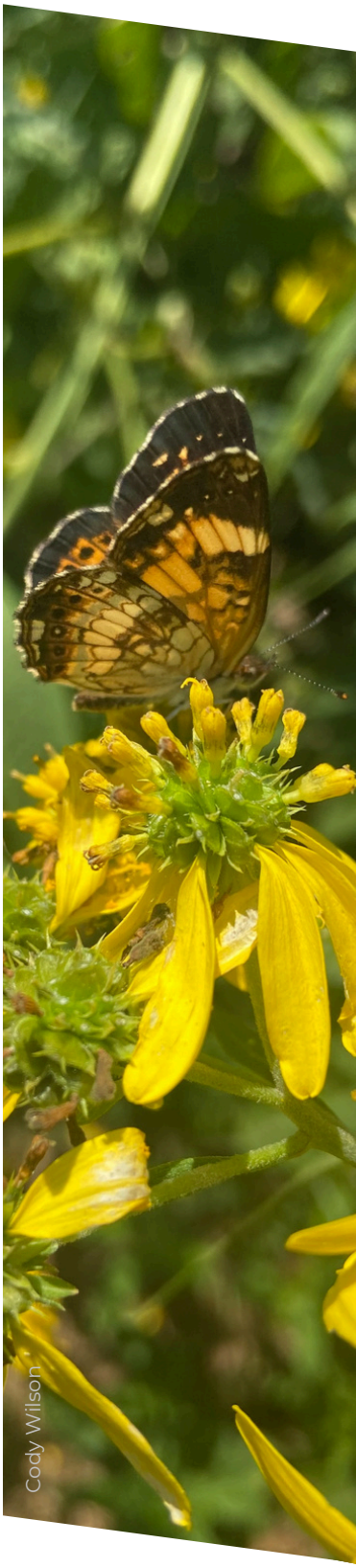
Flowering hedgerows or trees, insectary strips, conservation cover, on-site gardens, and cover crops are just a few ways pollinator forage can be incorporated into your farm that can be counted towards your BFF requirements. If you have questions about what qualifies as pollinator forage, please reach out to our knowledgeable BFF team at bff@pollinator.org.

The Bee Friendly Farming® application focuses on the main principles of forage:

- Scale: 3% of cropped area.
- How many booming species you have on-farm (i.e., forage diversity).
- Seasonal bloom of flowering species for spring, summer, and fall.

Permanent Habitat

Farms must incorporate 'permanent pollinator habitat' equivalent to 0.5% of their total cropped area. Permanent is defined as being established and maintained for a minimum of 3 years. Habitat area requirements scale with farm size—from a minimum requirement of 2,000 sq ft of permanent pollinator habitat for farms less than 10 acres in production (for example, a 200 ft x 10 ft hedgerow) to a maximum requirement of 25 acres of permanent pollinator habitat for farms more than 5,000 acres in production. Permanent pollinator habitat must incorporate flowers that bloom for at least two of three seasons (spring, summer, fall) and at least 30% of the permanent habitat area must be made up of plants that bloom and provide nectar/pollen to pollinators. Bloom requirements can be met by incorporating forbs, shrubs, and trees that are known to provide pollen and/or nectar for pollinators. Bare ground, downed trees, grasses, sedges, rushes, ferns, and conifers can be included in the permanent habitat and can be valuable for nesting and host plant resources but are not considered towards the bloom requirements. Permanent habitat, areas that are not, or minimally, disturbed for at least 3 years will naturally provide nesting resources for pollinators, such as plant stems, woody debris, and bare ground beneath and around plants. We encourage management of the permanent area that will benefit a variety of bee nesting resources, such as reduced mowing, retention of woody debris and herbaceous plant material, and minimal or no disturbance of soils.


Cody Wilson

Examples of permanent pollinator habitat include, but are not limited to: hedgerows, shelter belts, conservation cover, field borders, filter strips, wildlife habitat plantings, and flowering trees.

The Bee Friendly Farming® application focuses on the main principles of permanent pollinator habitat:

- 3 years of permanency.
- Scale: 0.5% of cropped area (minimum 2,000 sq. ft.).
- Contains flowering species for 2 of 4 seasons.
- Flowering species make up 30% of permanent habitat area.

Water

In agricultural landscapes, it is important to provide clean water for managed pollinators. Honey bee water exchange can be very high at the colony level. This is due to honey bees having such a high water turnover rate. Approximately 1% of the honey bee population become water foragers. These bees will actively seek out clean water to return to the hive. Honey bees require clean water for two primary reasons:

1) To dilute honey to be added to brood food. Honey bees use foraged water for consumption by nurse bees when feeding the brood. Nurse bees feed young larvae a secreted jelly that is supplemented with honey and pollen. The water content of royal jelly is quite high. Nurse bees have a high demand for water when brood rearing is in high gear.

2) Honey bees require water to cool hives when the ambient temperature is over 35°C. Water is collected by water foragers, then distributed around the hive and in cells containing eggs and larvae. Active bee fanning accelerates its evaporation keeping ambient temperatures of the hive low on hot summer days.

Irrigation canals, holding ponds, lakes, or natural bodies of water can count towards program requirements. If managed pollinators are not found on-site, clean water provision is not required.

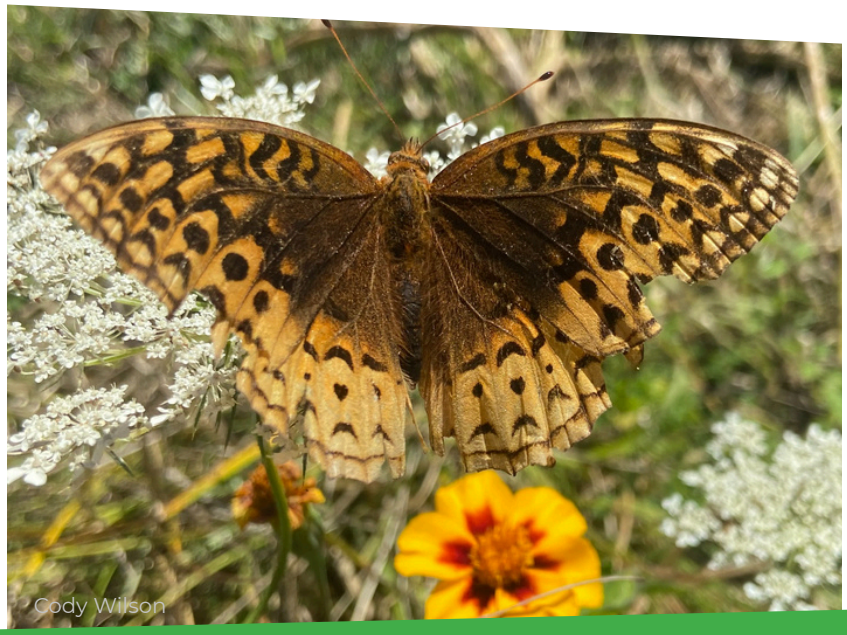
The Bee Friendly Farming® application focuses on the main principles of water provision:

- Are managed bees brought on-site?
- Is clean water provided for the bees?
- What is the source of your provided water?

Integrated Pest Management

One of the keystones of the program is working with farmers to develop Integrated Pest Management (IPM) plans that consider pollinator health, while meeting the goals of the farmer. While each of the fundamental aspects of IPM play an important role in optimizing management of pests, careful consideration of pollinator health should be taken in each of these steps to support pollinators without limiting efficacy of pest management strategies. Many insecticides and other pesticides negatively impact pollinators and have likely contributed significantly to the decline in insect populations over the last century.

With this in mind, it is important to develop IPM programs that take into consideration the farmer's needs and pollinator health. BFF enrolled farmers are expected to practice IPM potentially reducing or eliminating the use of chemicals.



The Bee Friendly Farming® application focuses on the main principles of IPM:

1. Pest monitoring and identification.
2. Decision making based on monitoring and economic thresholds.
3. A multi-faceted approach that combines chemical, physical, biological, and cultural control methods.
4. Prevention of infestations.
5. Evaluation and improvement of management strategies.
6. Resistance management.

1. Pest monitoring and identification: Proper identification and monitoring of pests is vital to understand potential mitigation of any possible pest infestations. This series of questions asks for detailed information about how monitoring occurs, by whom, where the information for identification is coming from (extension guidelines, etc.), and if records are stored. This informs management decisions that might affect pollinators.


Cody Wilson


Antony John

2. Decision making based on monitoring and thresholds: Management decisions should be based on proper monitoring which informs when the cost of pest treatment justifies the potential crop losses. Models are commonly used to help make decisions about the timing of management practices. These can be based on initial trap catches and weather data. By using these types of models, growers can make science-based decisions in developing management plans. This is important because it ensures that growers are applying management strategies at the proper time and avoiding any unnecessary applications, reducing pesticide exposure to pollinators.

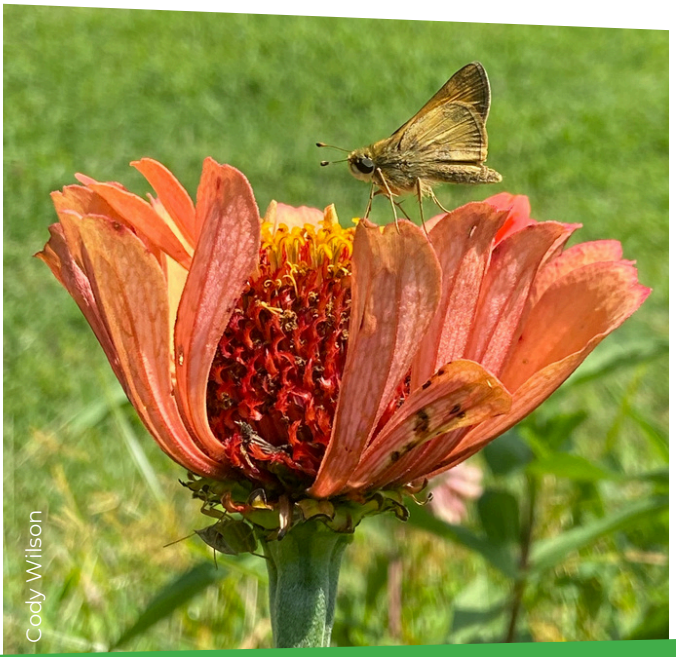

Antony John

3. A multi-faceted approach that combines chemical, physical, biological, and cultural control methods: IPM benefits from a combination of management approaches that can use different modes of action and strategies, taking advantage of physiological, ecological, and behavioral characteristics of the target pests. These non-pesticide approaches reduce potentially toxic exposure to pollinators. Methods of applying chemicals are also important in mitigating exposure to pollinators. Growers are required to use a multi-faceted approach that combines physical, biological, chemical, and cultural control methods and are required to demonstrate which management strategies they are implementing.

4. Prevention of infestations: An important aspect of IPM is the principle of avoiding potential infestations. Small steps can be taken to mitigate outbreaks, many of which directly benefit pollinators. Growers are required to practice at least two preventative measures.

Gail Vandersteen

5. Evaluation and improvement of management strategies: Many of these principles can and may need to be adjusted as seasons change. Adapting farming practices to new methods, changes in the environment, or emerging pests are essential to developing impactful IPM programs.



Cody Wilson

6. Resistance Management: Pest populations can develop resistance to specific pesticides through continued use of the same Mode of Action (MoA). Alternating MoAs, applying at appropriate rates and timings, calibrating equipment, and many other techniques can all help prevent resistance evolution. A passing BFF application will demonstrate the use of at least one resistance management technique recommended by the Insecticide Resistance Action Committee (IRAC).

At **Bee Friendly Farming®**, we understand how complex and important IPM is to our members. We believe that these key principles provide the growers a framework to not only protect their livelihoods, but incorporate pollinator health and awareness. We also understand that practices and situations change from year to year, and we continue to listen and adapt to the needs of our members and pollinators.

BFF Application Process

In 2023, Bee Friendly Farming launched its tailored account system and portal. Through this portal, growers can submit a new application for farm enrollment, edit their profile information, make changes to habitat and farm information for review, download and print BFF reports, and readily access payment information. Create an account and submit an application at the BFF login page. Once an account has been created, growers will be prompted to submit a BFF assessment. In order to verify the pollinator habitat on your farm, the following documents and information are required:

- Location, type, and seasons of blooming pollinator forage.
- List of non-cropped, flowering plant species provided for the bees forage.
- Photos of your:
  - Habitat
  - Forage
  - Clean water provided for the bees (if necessary)
- Details on your operations IPM strategies.

To upload additional photos, documents, and pertinent material, email bff@pollinator.org

When necessary, BFF team members will reach out for follow up information. Before a report can be issued, all information must be verified. Program placement decisions will be delivered within 4-6 weeks after submission of all necessary documents and information. After placement decisions have been made, it is the responsibility of the producer to make contact with the BFF team in order to initiate any changes to BFF score or ranking.

BFF Program Tier Structure

Apply

To start with Bee Friendly Farming, a program of Pollinator Partnership, create an account and continue to submit a BFF application. The more thorough you are with your questionnaire responses, the more appropriate your tier placement.

Tier 1

Tier one is designated for beginners in their habitat development. Through your application responses, it was determined that you have either just begun working on your habitat and management plans or you only have pieces to the whole habitat and IPM puzzle. Tier one producers can access some of the benefits of the BFF Program.

Tier 2

Tier two is designated for producers who have most of the components necessary for pollinator habitat and management, but are just missing small pieces. Tier two producers can access most benefits of the BFF Program.

Tier 3

Tier three is designated for those who have all key components of pollinator habitat and IPM on their farm. Tier three producers can access all benefits associated with the BFF Program *except* on-pack logo use. Tier three producers are strongly encouraged to achieve BFF 3rd Party Verified Certification.

Third Party Verified Certification

For more information, download the Third - Party Certification Manual or visit beefriendlyfarming.org

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Certification Bundling and Partnerships

Proof of current good standing in other accepted certifications will allow you to bypass significant portions of the BFF application form. Whereas existing certification is not required to become a BFF member, certificates from American Tree Farm System, California Almond Stewardship Platform, California Certified Sustainable Winegrowing, California Certified Organic Farmers, Fish Friendly Farming, LIVE, Bee Better Certified, EU Organic Certified, Certified Wildlife Friendly for Pollinators, USDA Certified Organic, and Sustainable Forestry Initiative are all certifications that will help expedite your application process. If your certification is not an available option in the application, please reach out to bff@pollinator.org for more information or to have it considered.

Annual Programmatic Review

The BFF Program undergoes an internal annual review and updates to guarantee that the program is in line with the most up-to-date science and issues being faced by pollinators and farmers. We welcome feedback from our members and the larger scientific community.

Pollinator Partnership reserves the rights to audit any program members at any time and may require additional information with up to date standards.

BFF Application Fees

The BFF program requires an annual membership fee of $75.00 USD due yearly on the grower's anniversary date of entering the program. Program members also have the option to pay up front for three years for a discounted total of $180 ($60/year). At any point in time, membership can be cancelled. Additional program donations will always be welcomed and accepted.

Growers can submit their annual membership fee via check, bank transfer, or through Bloomerang, P2's Customer Relations Management (CRM) software. Bloomerang users have the option to establish a recurring payment system that will automatically charge the grower the annual fee yearly on their enrollment anniversary date. This feature can be initiated by the grower and is completely optional. Recurring payments can be cancelled anytime by the grower.

In the event of a missed payment, reports will remain invalid until payment is received. In certain cases, the grower will have to submit a new BFF application in order to renew their enrollment. Logo use is dependent on current membership fee payment. If payment is not made, logo use is no longer valid.

Note for Third- Party Verified Program

The application process, fee structure, and verification requirements are unique to this program. For more information, please review the Third - Party Certification Manual.

Logo Use Agreement

BFF Program members are restricted to logo-use on marketing and promotional material. We encourage our growers to promote their participation in the program. Logo use is dependent on current membership fee payment. If annual payment is not received, logo use is no longer valid.

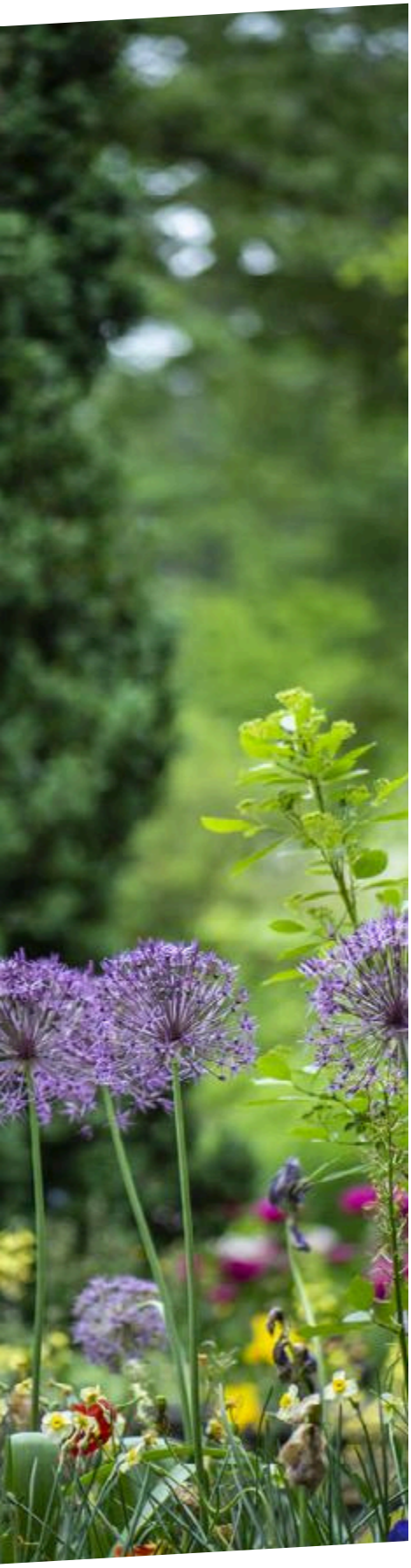
On-pack logo use is exclusive to BFF Certified growers through the Third-Party verified program. Licensing fees apply to the end product that displays the BFF logo. Chain of custody and traceability will be verified by the third-party auditor.

Logo use agreements must be signed and obtained by Pollinator Partnership staff before grower use of either program logos.
Contact bff@pollinator.org to receive a logo use agreement.

Cody Wilson

Benefits of BFF®

- Discount on consulting from the BFF team for support, including plant suggestions, connection to sourcing, site visits etc. These recommendations are built on the best science for both pollinators and your crop.
- Access to educational opportunities and resources to build better pollinator habitat.
- First access to grants and funding opportunities for agricultural practices offered through Pollinator Partnership.
- Logo use for media and marketing purposes.
- Connections to corporate sponsors and partners.
- Membership to a network of like-minded growers.
- Access to branded hats, signs, etc. on website store.
- Monthly newsletter, blog, website, other features to learn from and be featured in.
- Feedback survey.
- Complete privacy policy for data usage; farmers can feel comfortable sharing information with the BFF Program.



Checklist for Application to the Bee Friendly Farming® Program:

It should take less than 45 minutes to fill out and submit online if you use the checklist below to prepare the information you will need:

- ☐ Proof of current good standing in other accepted certifications (CASP, Live Certified, Bee Better Certified, USDA Certified Organic, among others). Uploading these files are not required, but will allow you to bypass significant portions of the form.
- ☐ A list of all known plant species on your farm that provide forage for bees and other pollinators.
- ☐ Images of your forage habitat.
- ☐ Images of your clean water sources when managed honey bees are on your farm.
- ☐ Images of potential bee nesting habitat.
- ☐ Pest management protocol, including monitoring/ identification practices, decision making steps, prevention techniques, intervention (application conditions, drift management, etc.), evaluation, and resistance management.
- ☐ Create a Bloomerang account if you do not already have one. (Please reach out to bff@pollinator.org if you need to use another payment method.)

You are ready to fill out your application. Be sure to allow the form access to your location when prompted, and enter your farm's primary phone number to make future forms much easier; this information is how you will retrieve your application data.

Bee Friendly Farming® and Bee Friendly Gardening

In 2022, the Bee Friendly Farming® program was retooled to form two distinct programs- Bee Friendly Farming (BFF) and Bee Friendly Gardening (BFG). These programs provide avenues for participation throughout a variety of landscapes and goals. Each program has its own purposes, requirements, and benefits.

BFF (Bee Friendly Farming) is appropriate for farming operations that have worked to install and/or maintain pollinator habitat on their properties. It has a rigorous set of standards and requires the most stringent compliance while allowing the use of the BFF logo in marketing materials and websites (after approval by Pollinator Partnership of the text).

BFG (Bee Friendly Gardening) is designed for home gardeners and community members that create and maintain pollinator habitat and management practices. This effort is a self-registration membership that builds a community of active gardeners who want to create and maintain pollinator habitat. Whereas registration is open for all, validation is required for designation as a Bee Friendly Gardener. The BFG movement is helping inform smart landscape decisions and brings the latest science to landscapes across North America and around the world. Like BFF, BFG inspires the creation of habitat on the land and the management practices that keep habitat safe and supportive for pollinators. For more information on BFG, visit: pollinator.org/bfg.

Additional Resources

- See Farming Resources for additional information on how to effectively incorporate pollinator habitat in and around your farming operation.
- Visit Pollinator Partnership Ag Grants for potential funding opportunities for your pollinator projects hosted by Pollinator Partnership.
- Utilize Pollinator Partnership's Ecoregional Planting Guides for a tailored selection of plants for pollinators specific to your ecoregion.
- Utilize the University of California Agriculture and Natural Resources' Statewide IPM Program or your region's Cooperative Extension Service for science-based solutions to your pest problems.
- Use the Bee Precaution Pesticide Ratings for guidance on how to avoid and reduce the potential for bee poisoning.
- Get free cover crop seed through Project Apis m. Seeds for Bees Program.
- Visit USDA Farm Service Agency and Natural Resource Conservation Service for financial assistance opportunities to fund your pollinator habitat efforts.
- Utilize the Almond Board of California Cover Crop Best Management Practices.
- Visit our Bee Friendly Farming Peer- Reviewed Literature for the science behind the framework of our BFF Program criteria. Statistics and numerical values on pollinator criteria can be found at this link.


Cody Wilson

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