



# BEE FRIENDLY FARMING® TOOL KIT

A resource for state agriculture departments to support the implementation of Bee Friendly Farming® Certified practices

**POLLINATOR  
PARTNERSHIP**

**NASDA  
FOUNDATION**

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# Foreword

Pollinating animals provide so many ecosystem services for growers (even if the crop does not require pollination). These benefits include soil health, water retention, increased pollination services, larger and more prolific seed set and yield, and carbon sequestration. Planting for pollinators and maintaining healthy habitat through Integrated Pest Management makes real sense for every farm and ranch.

The partnership between the National Association of State Departments of Agriculture Foundation and Pollinator Partnership is dedicated to supporting farmers and ranchers increase their productivity and reduce their expenses through support for pollinator habitat on working lands and a clear understanding of the benefits and methods of implementation of IPM. This toolkit is designed to help bring clarity to NASDA members and their collaborators and to provide simple, easy to use tools to engage producers.

We are proud to be introducing Bee Friendly Farming®, which has more than triple the number of acres enrolled as any other certification program. Embraced by producers and supported by common sense conservation, BFF brings real and lasting change to America's agricultural lands while supporting accessibility of crop protection tools coupled with standardized monitoring and planning techniques to address pest problems well before they take root.

We consider this toolbox to be a living document, always being updated and improved, and we welcome suggestions and questions at [info@pollinator.org](mailto:info@pollinator.org)

Thank you for Beeing Bee Friendly!

Kelly Rourke  
Executive Director  
Pollinator Partnership



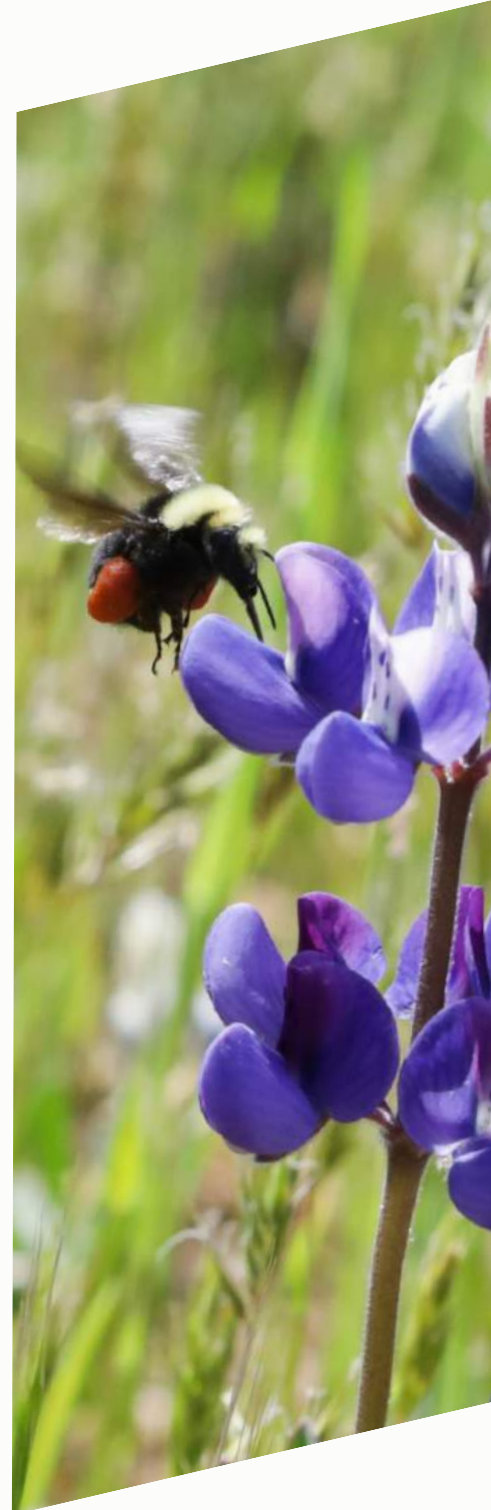
# Introduction

Birds, bats, bees, butterflies, beetles, and other small mammals that pollinate plants are responsible for bringing us one out of every three bites of food. They also sustain our ecosystems and produce our natural resources by helping plants reproduce.

Pollinating animals travel from plant to plant carrying pollen on their bodies in a vital interaction that allows the transfer of genetic material critical to the reproductive system of most flowering plants –

- the very plants that bring us countless fruits, vegetables, and nuts,
- ½ of the world's oils, fibers and raw materials;
- prevent soil erosion,
- and increase carbon sequestration

This nearly invisible ecosystem service is a precious resource that requires attention and support and in disturbing evidence found around the globe, is increasingly in jeopardy. Pollinator Partnership (P2) urges you to know how this system supports you, and how your actions can help support healthy and sustainable pollination



# What is Bee Friendly Farming®?

Bee Friendly Farming® (BFF) provides guidelines for farmers and growers to promote pollinator health on their lands. BFF strives to set standards for sustainable farming on important concepts like planting pollinator food resources, providing nesting habitat, and incorporating an integrated pest management strategy. Through BFF, farmers, home gardeners, and private or corporate sponsors can be directly involved in providing resources necessary to support pollinators. By providing a low-cost membership program, growers and gardeners can spend valuable time and money getting plants and seeds in the ground to support pollinators. The BFF Certified program highlights and supports farms, wineries, ranches, and other commercial land-use operations that promote and support pollinator health. By becoming Bee Friendly Farming® Certified the grower helps preserve and protect pollinator populations by implementing positive, incremental, substantiated changes on agricultural landscapes. Each Bee Friendly Farming® Certified farm is an essential part of keeping pollinators healthy and the food supply abundant and receives use of our Bee Friendly Farming® logo and can be featured on the P2 blog for product promotion.





# Three Categories of BFF

The Bee Friendly Farming® program has expanded into three distinct categories - CERTIFIED, GARDEN, and PARTNER. These three categories provide avenues for participation for a variety of landscapes and goals. Each category has its own requirements and benefits.

**BFF CERTIFIED** is most appropriate for farming operations. It is rigorous and requires the most stringent compliance while allowing the use of the BFF logo to those whose diligence is authenticated and rewarded.

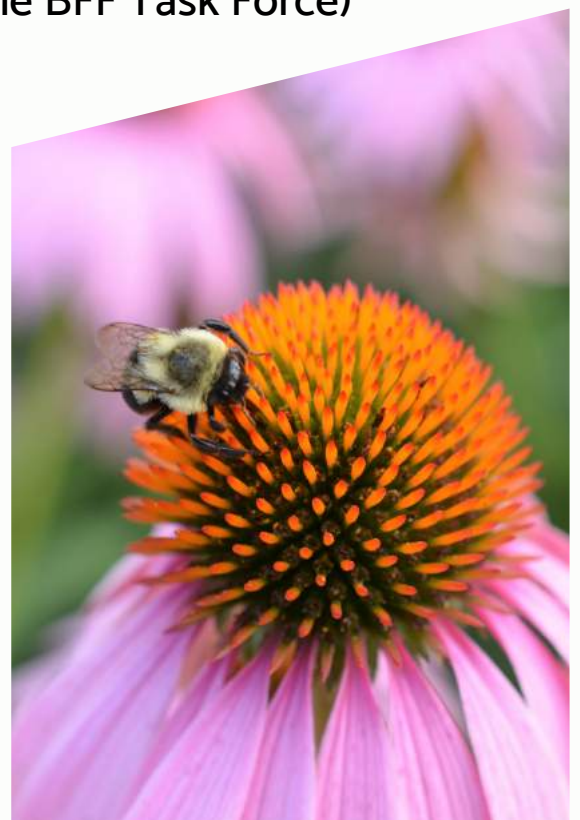
**BFF GARDEN** is designed for home and community gardens that maintain pollinator habitat and management practices. Both of these categories recognize habitat on the land and the management practices that keep habitat safe and supportive for pollinators.

**BFF PARTNER** is a designation for members of the community, corporate or individual, who do not necessarily maintain pollinator habitat but wish to support the program. Their financial backing allows for more habitat for pollinators and more support for growers and partners

# What are the criteria of BFF?



- Offer forage providing good nutrition for bees on at least 3% of land. Forage can be temporary, including cover crops.
- Provide bloom of different flowering plants throughout the growing season, especially in early spring and late autumn. There is no minimum land coverage for seasonal bloom
- Offer clean water for bees if not inhibited by government mandated water restrictions.
- Provide permanent habitat for nesting through features such as hedgerows, natural brush, buffer strips, or bare ground
- Practice Integrated Pest Management (IPM); reduce or eliminate the use of chemicals.
- Pay the annual certification fee.
- Complete the compliance form once every 3 years (audited by the BFF Task Force)





# Bee Friendly Practice: What is Integrated Pest Management?

One of our goals at Pollinator Partnership is to provide science-based resources and expertise that make incremental changes to land-use practices. The Bee Friendly Farming program highlights and supports farming operations that set the standard for pollinator health management. The program is built on four criteria that support all pollinators: providing diverse forage for pollinators, providing and managing nesting habitat, providing clean drinking water, and developing mindful pest management programs. 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.

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

- Pest monitoring and identification
- Decision making based on monitoring and thresholds
- A multi-faceted approach that combines chemical, physical, biological, and cultural control methods
- Prevention of infestations
- Evaluation and improvement of management strategies
- Resistance management

While each of these 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.





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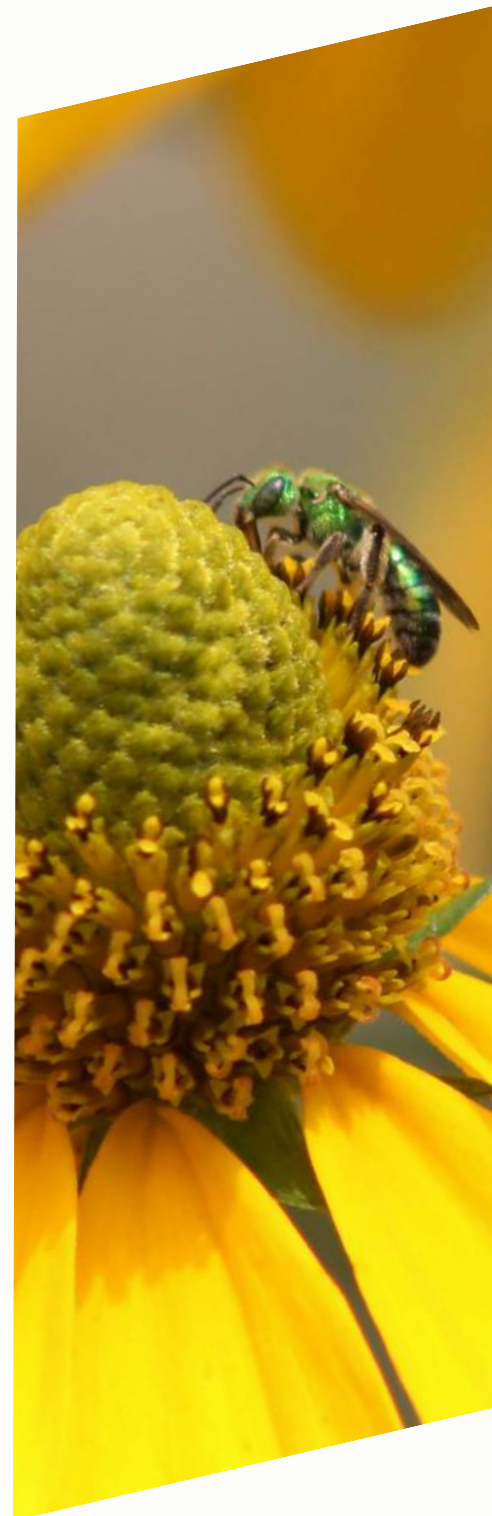
The BFF Certified application requires adoption of IPM. Information on each of the IPM principles is described below.

**1. Pest monitoring and identification:** Proper identification and monitoring of pests is vital in understanding the specific situation and potential mitigation with 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.

**2. Decision making based on monitoring and thresholds:** Management decisions should be based on monitoring and assessing if threshold levels are met. 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.

**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. The means 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 2 preventative measures.





**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. We are interested to learn more about the internal process and decision making for adapting to these situations and how pollinator health is incorporated in these decisions.

**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<sup>®</sup>, 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.

# Bee Friendly Practice: What are examples of pollinator habitat?

The following examples demonstrate some types of habitats that may allow a grower to qualify for Bee Friendly Farming Certified. This is not an exhaustive list but can serve as inspiration for planting pollinator habitat.

## Cover Crops within Field

Cover crops, commonly a mix of mustard, clover, or other wildflowers planted within crop fields, provide numerous benefits for pollinators by providing both pollen and nectar. These annuals also provide soil health, water infiltration, and carbon sequestration benefits.



## Cover Crops in Adjacent Land or Field Edge

Certain management conditions may favor cover crops to be planted in a neighboring field. This is beneficial for operations that may have concerns regarding pests, water use to establish the cover crop, and interference with crop harvest and management.



## Hedgerows Along Field Edge

Hedgerows consist of woody shrubs and trees that provide permanent nesting habitat and floral resources for pollinators. These plantings also provide additional benefits such as acting as windbreaks, improving soil health and retention, water infiltration, and sequestering carbon.



## Natural Habitat Areas

Natural, established, habitats that consist of flowering plants can be managed and supported to protect pollinators. Special care should be taken to manage invasive species that may compete with native pollinator friendly plants. These areas also support ground nesting bees that require undisturbed ground.



## Set Aside Plantings

Semi-natural/ restored areas can be established in permanent set aside areas. These can emulate natural areas and provide floral resources and nesting habitat. The added benefits of these areas are that this habitat can be managed easier, receiving supplemental irrigation, and allow for specific plant species to be established.

# How can this be helpful to states?

State agriculture departments can use the philosophies and resources from Bee Friendly Farming to support the agricultural communities in their states. Bee Friendly Farming can provide these departments with training, webinars, grower examples, and other resources to train agriculture department employees and decision makers to support producers. This tool kit serves as an introduction to these practices and includes other resources from Pollinator Partnership.

State Apiary Inspectors are invaluable experts who can drive the conversation surrounding pollinator conservation within state ag departments. By providing training and resources to these essential advocates, state ag departments can help encourage producers to implement Bee Friendly practices.

States and State Apiary Inspectors benefit from Bee Friendly Farming® because they are both interested in the agricultural production of the State and in its sustainability and biodiversity. Keeping ecosystems healthy relies on healthy pollinators as does much of agriculture. Working together on these complex issues requires paid professionals who are able to engage the grower community and keep dialogues open for progress.

Bee Friendly Farming supports state departments of agriculture and State Apiary Inspectors by providing resources and guidelines to encourage the adoption of best management practices for agriculture, which can strengthen regenerative agriculture programs in their states







# What are the benefits to producers?

- Benefits of Bee Friendly Farming® CERTIFIED
- Use of BFF CERTIFIED logo on products
- Sustainable sourcing and consumer demand for BFF CERTIFIED products
- Access to 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 seed and plant grants
- Connections to corporate sponsors/ 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
- Complete privacy policy for data usage; farmers can feel comfortable sharing information with BFF CERTIFIED

# How can State Departments of Agriculture be helpful to producers and pollinators?

State Departments of agriculture can provide resources to agricultural producers and encourage bee friendly practices across all landscapes. These resources can include:

- Apiary Inspectors - Ensure that funding is available in the state budget for this vital role in keeping managed pollinators effectively serving agriculture and in strengthening the sustainability of all pollination in the state. Well funded and staffed departments of apiary inspection was the common thread that the North American Pollinator Protection Campaign (NAPPC, managed by Pollinator Partnership) identified as a key factor in pollinator health. These professionals know bees, and increasingly they have familiarity with all pollinating species. Support to keep these positions vibrant is a step forward for pollinators everywhere.
- Convene ag groups, cooperative conservation groups, state and federal departments operating within the state in agriculture, conservation and pesticide regulation, and other key stakeholders. The California Pollinator Coalition is an example (pg number below) that was convened by the State Secretary of Agriculture, Karen Ross, Josette Lewis of the Almond Board of California, and Laurie Davies Adams of Pollinator Partnership. This group exists for the purpose of having agriculture be in a leadership position to propose pollinator friendly actions that support habitat, IPM, and sound production.
- Develop financial assistance programs which can go to either grower groups or conservation groups working in partnership together.
- Encourage the adoption of certification programs like Bee Friendly Farming so that grower actions are recognized and compensated and certification program criteria are realistic, productive, and embraced.
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# How do you form a state pollinator coalition?

## What is the California Pollinator Coalition?

The California Pollinator Coalition, convened by Pollinator Partnership, the California Department of Food and Agriculture and the Almond Board of California, is made up of a diverse group of agricultural and environmental organizations with the shared goal of providing enhanced habitat for pollinators. The Coalition and its more than 20 founding members (listed below) – representing the large majority of California’s landscape of crop and range land – have pledged to increase habitat for pollinators, including beneficial insects (e.g., bees, butterflies, beetles, wasps, moths and more), on working lands.

The goal is to increase collaboration between agriculture and conservation groups for the benefit of biodiversity and food production. The result will be on-the-ground improvements, technical guidance, funded research, documentation of relevant case studies, and tracked progress toward increasing healthier pollinator habitats. Achieving this goal benefits farmers and the environment in California, by increasing biodiversity, improving pollination success, supporting Integrated Pest Management, and sequestering more carbon in the soil.





The Coalition also hopes their success will serve as a model for more collaboration among interests who have not always been aligned, but who are willing to come together in partnership to confront common challenges.

The Coalition cannot reach its goal without the farmers and ranchers who manage working lands in California – providing more than 50% of the fruits and vegetables for the country. Farmers and ranchers need assistance in developing pollinator-friendly forage on their working lands, which can increase the cost of production and compete for precious resources like water. The collective land represented by farmers and ranchers represented by Coalition members will provide the critical mass to address habitat on an unprecedented scale for the benefit of wild and managed pollinators. The California Pollinator Coalition will focus on increasing forage habitat for pollinators on working lands by assisting farmers in implementing pollinator-friendly practices, showing progress as part of the solution. Key activities of the Coalition will include:

- Preparing grower-friendly guidance to build and maintain pollinator habitat on farms and ranches
- Promoting voluntary, incentive-based habitat establishment projects and Integrated Pest Management (IPM) practices
- Conducting research and disseminating relevant science
- Monitoring outcomes (adoption rates and effectiveness of practices)

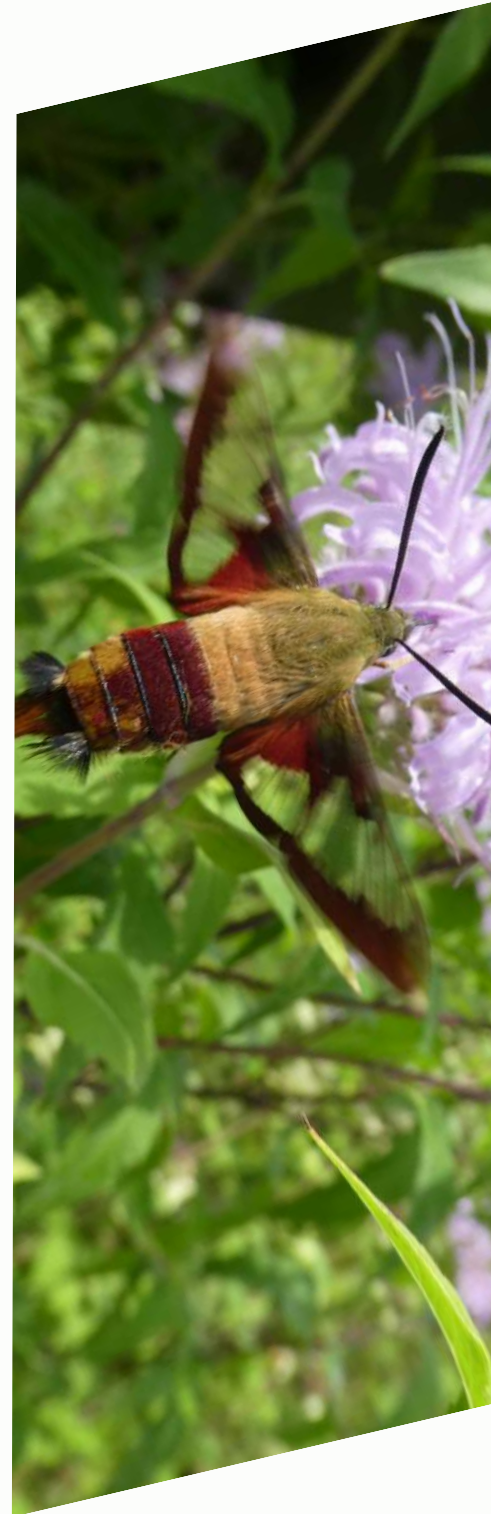


## Context: Defining The Need

Pollinators are a critical resource that requires attention and support. California is home to more than 1,600 native bees and hundreds of other species of pollinating insects. Globally, pollinators provide service to more than 180,000 different plant species, more than 1,200 crops, and are responsible for producing an estimated one out of every three bites of food. In addition to the food that we eat, pollinators also sustain our ecosystems and produce our natural resources by helping plants reproduce. Pollinators add \$217 billion to the global economy each year. Many of the nation's pollinated crops – like citrus and almonds – are grown in California. Pollinator populations are declining and often suffer from the same challenges as California agriculture, which could be mitigated through collaborative action.

# Coalition Membership

While just beginning its work, the Coalition is catalyzing new collaborations and continuing to recruit partners who understand the urgency and share the common goal of supporting both the health of pollinators and agriculture. Current membership includes: Agricultural Council of California, Almond Alliance, Almond Board of California, California Alfalfa and Forage Association, California Association of Pest Control Advisers, California Association of Resource Conservation Districts, California Cattlemen's Association, California Citrus Mutual, California Department of Food and Agriculture, California Farm Bureau Federation, California State Beekeepers Association, California Sustainable Winegrowing Alliance, Environmental Defense Fund, Monarch Joint Venture, Monarch Watch, Pollinator Partnership, Project Apis m., University of California Agriculture and Natural Resources, USDA Natural Resources Conservation Service of California, Western Growers, Dr. Neal Williams, University of California, Davis.





# What are the costs to growers and how can they get financial assistance?

- Pollinator plantings, both seeds and live plants, can range in cost from a few dollars to thousands of dollars per acre depending on the species composition, size of planting, plant availability, and existing plant community.
- Many cost share programs exist at both the state and federal levels, as well as through non-profits, such as Project Apis m.
- State departments of agriculture can assist growers in accessing these funds by:
  - Working with Natural Resources Conservation Service and Resource Conservation District (or equivalent) offices to create outreach material and programs to assist growers in enrolling
  - Developing state specific cost share programs, such as the California Healthy Soils program
  - Creating funding opportunities for non-profits to develop seed and plant grant programs

# How can states communicate about Bee Friendly Farming to their grower groups?

- [Bee Friendly Farming Handbook](#)
- [Bee Friendly Farming Media Toolkit](#)
- [Eco-regional Planting Guides](#)
- [Pollinator Partnership Webinars](#)
- [Pollinator Partnership Learning Center](#)
- [Pollinator Week Toolkit](#)
- To order Bee Friendly Farming rack cards email [info@pollinator.org](mailto:info@pollinator.org)







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