

how

Creating Pollinator Habitat Can Help Northeast Farmers

adapt to climate change

Native pollinators (bees, moths, butterflies, and other insects) play an essential role in farm production.

An estimated two-thirds of the world's crop species depend on insect pollination. Bees alone support 45% of crop pollination in Massachusetts. Managed honey bees are commonly used as a way to pollinate crops. However, commercial honey bees do not provide the same pollination quality as a diverse mix of native insects. Improved pollinator habitat can increase the presence of native pollinators on working vegetable, fruit, and grain farmland. This can improve farm viability and climate change resilience.

Climate change is causing more frequent and erratic weather extremes, such as drought and intense rain events. These weather conditions can wreak havoc on local plants and animals, including agricultural production systems. Farms are already shifting to climate resilient management systems to reduce crop loss risk. Reduced tillage, no till, and cover crops improve soil stability, moisture and temperature regulation, and help control pests. Another climate resilient approach is growing crops in the controlled environments of high tunnels.

As farms think about actions they can take to support pollinators, it is important to recognize that most pollinators need season-long attention, extending beyond crop bloom. Providing food and safe living conditions for pollinators throughout the season is important.



Pollinator habitat enhancement (and the native pollinators it supports) can help farmers adapt to climate change by:

- Improving crop yield
- Addressing increased pest and disease pressure
- Providing new harvestable pollinator crops for market such as elderberry, raspberry, blueberry, chokecherry, and ornamentals such as winter berry and willow
- Reducing the impact of extreme weather when pollinator habitat is integrated into windbreaks, hedgerows, and/or stream buffers
- Improving farmer mental health through increased beauty

What actions can be taken by farmers?

- Inventory the farm and identify existing plant species. Identify gaps in the bloom cycle between early spring and late summer. Habitat enhancement can fill in these gaps.
- Plant hedgerows with diverse plants
- Apply to NRCS for pollinator habitat planning or implementation support

Many farms already provide habitat for pollinators. The below actions can build on existing farm practices and do not require planting any new habitat:

- Allow cover crops to flower to provide food for pollinators
- Minimize ground disturbance for ground nesting bees
- Leave woody debris, plant stalks and stems on the ground to provide habitat
- Eliminate or minimize the use of pesticides and herbicides through Integrated Pest Management practices
- Adjust mowing practices to mow less area, less frequently, or higher

What resources exist to support farmers with pollinator habitat enhancement?

- NRCS provides financial support for both planning and implementation
- UVM Pollinator Program
- Massachusetts Pollinator Network
- Landscape Interactions - Pollinator habitat design specialists

Resources for Farmers and Technical Service Providers

- Xerces Society has an [extensive list of pollinator conservation resources](#), including this guide on [Farming for Bees](#)
- [UVM Extension's Pollinator Program](#)
- [NRCS Pollinator Habitat Enhancement Plan](#) [Sample]
- Astarte Farm, Hadley, MA - [Pollinator and Predator Habitats](#) [Video]

References

- [Massachusetts Pollinator Protection Plan](#)
- [Lincoln Pollinator Action Plan](#)
- [Smart Gardening: Pollination in vegetable gardens and backyard fruit](#)
- [Wild Pollinators Enhance Fruit Set of Crops Regardless of Honey Bee Abundance](#)
- [Wild bees add about \\$1.5 billion to yields for just six U.S. crops](#)
- [Enhancing Crop Yield Through Wild Pollinators](#)
- [Let Native Pollinators Add to Your Farm's Bottom Line](#)
- [Bee Species Diversity Enhances Productivity and Stability in a Perennial Crop](#)
- [Pollinator habitat enhancement: Benefits to other ecosystem services](#)
- [Establishing Wildflower Pollinator Habitats in Agricultural Farmland to Provide Multiple Ecosystem Services](#)
- [How Farmers Can Help Pollinators](#)