

HORTICULTURE

Protecting Pollinators

Pollinators provide a crucial service to many fruit and vegetable crops, but land-use changes, agricultural practices and climate change stressors are impacting their health, abundance and biodiversity. Impacts on bee health affect pollination success and crop productivity.

Key Impacts

Below are the main anthropogenic drivers which have a synergistic effect¹ on pollinator health, abundance and biodiversity.

Climate change: Hurricanes, floods, drought, extreme heat and wildfire smoke harm pollinators and are expected to worsen with climate change.

Agricultural pesticides: Bees can encounter insecticides, fungicides and herbicides directly while foraging or indirectly through contaminated pollen and nectar brought back to the colony.

Land use and habitat loss: Loss of habitat and forage puts stress on bees by limiting food and shelter, increasing energy spent searching for resources and decreasing protected areas needed for nesting and reproduction.

¹Synergistic effects occur when multiple stressors combine to cause greater harm than any one alone, even if each is sub-lethal. These combined impacts can make bees more vulnerable to pests and diseases, disrupt their gut microbiome, reduce reproduction, impair learning and navigation, and lower foraging success.

Key Adaptation Strategy

Protecting pollinators, both wild and managed, requires collective action from multiple commodities. Certain on-farm practices can protect pollinators and improve resiliency to climate change, pesticide use and habitat loss.

Education

- Learn to recognize major bee groups and their behaviour

Protect pollinators from pesticides

- Follow an integrated pest management (IPM) program so that you are only spraying when it is essential and highly effective
- Avoid spray drifting
- Spray in the evening
- Communicate with beekeepers about pesticide applications
- Avoid insecticides when crops and cover crops are in bloom

Enhanced forage and habitat

- Create pollinator pastures in field boundaries, shelter belts and riparian buffers, paths and roadsides, or uncultivated land
- Increase native plant diversity in margins by planting and seeding native flowers or retaining native flowers, plants and trees that provide blooms
- Minimize mowing of boundaries, roadsides, marginal lands and lawns, or mow field margins only after plants have bloomed
- Provide nest sites using dead branches, logs or artificial nest blocks
- Preserve natural habitat surrounding fields/facilities, including wetlands and wetland buffers, woodlots and forests, or meadows and shrubland.

Resources

Pollinator Partnership Canada

Resources on forage planting, habitat creation, and best management practices for pesticide applications



Resilient Agricultural Landscape Program (RALP)



NSFA Riparian Zones and Shelterbelts

