

KEY ACTIONS FOR WATERMELON PRODUCTION

The following actions are essential for sustaining suitable pollinator habitats:

- Offer flowering diversity with continuous bloom spanning the growing season.*
- Provide sites for nesting pollinator species. *
- Develop a thorough IPM program to reduce pesticide use.
- Maintain good communication with beekeepers regarding pesticide applications.



This guide is intended for growers and applicators supporting pollinators and pollination services in field-grown watermelon production systems. Watermelon producers have the ability to support pollinator health.

WATERMELON POLLINATION

For successful watermelon production, pollinators must facilitate pollen transfer. Honey bees are one example of efficient, easily managed pollinators. They spend an average of 6.8 seconds visiting a female flower, suggesting individual flowers are rich in resources ²⁹. Fruitful fertilization requires at least 1,000 pollen grains across the flower's three stigma lobes, necessitating a minimum of 8 honey bee visits per flower ^{29,30}. The recommended honey bee stocking rate is 0.2-5 hives/acre. Bumble bees, another efficiently managed pollinator, have the recommended stocking rate of 0.5-3 colonies/acre. Where wild bees are abundant, stocking managed bees may be unnecessary or reduced ^{4,34,35,36}.

ON-FARM ACTION GUIDE

Habitat and forage

Establishing habitat provisions on your farm is crucial for supporting pollinators ⁷⁻¹⁰. Consider these elements when incorporating pollinator habitat into your farming operation:

Offer areas safe from pesticide application and drift via buffers and precise application management, especially around native bee nesting sites. *

Use selective weed control to reduce impacts of mowing and applications to potential pollinator resources by leaving marginal edges, non-invasive weeds, wildflowers, or habitat patches in/around crops 8-12.*

Establish floral strips or hedgerows, which take little or no land out of production, on field edges and other low impact areas on your farm ¹⁰⁻¹² *

Introduce flowering plants within your windrow and plant ground cover in/along roadways. These practices also aid in sediment. mud. and erosion control. *

Designate locations with untilled, undisturbed soil, lawns⁵, debris, logs, or standing plant material for ground, twig/tunnel, and cavity nesting bees. *

Integrated Pest Management (IPM)

IPM invests in long-term, preventative practices through ecosystem function. Below is a list of strategies you can use to manage pests and mitigate risks to pollinators:

Rotate pesticide classes (a) year to year in the same crop to avoid developing pest resistance and (b) in the same location to avoid pesticide residue accumulation in the soil ¹⁴. * Follow label directions and best management practices to minimize risk to pollinators.

Avoid spraying insecticides during bloom when bees are active, as this practice may be prohibited. Pay special attention to label restrictions⁶.



Regularly perform farm sanitation procedures to prevent pest outbreaks. Consider using pest-resistant watermelon varieties.

Adjust irrigation appropriately.

Overly-saturated soil with poor water infiltration/drainage increases the risk of root diseases and harmful nematode populations ³¹. *

Install habitat to attract beneficial insects, including syrphid flies, green lacewings, and parasitic wasps, to aid pest suppression.*

Develop a pest monitoring program to inform appropriate control decisions and incorporate adaptive improvements to IPM plans.

