

Impact of Pollinator Die-Off on Maryland Produce Farmers

1. **Insect-pollinated crops directly are worth \$24 billion to the U.S. economy** – with honeybees contributing \$15 billion.¹ Bee populations in Maryland and globally have been dying off in massive numbers since at least 2006, threatening 1/3 of our food supply that relies on pollination.
2. **Bee colony die-offs in Maryland** during the winter of 2014-2015 were nearly 61%, the fifth-highest state loss in the country.²

3. **Maryland produce farmers tend to be small family farms**, which, unless they grow their own bees, rely on contracted pollination services. Although managed bee supplies are sufficient right now, the cost of contracting for pollinators has more than doubled in recent years. This comes at a time when Maryland's farmers already are economically challenged by severe weather, as well as costs of equipment, fertilizer, pesticides, and labor. Loss of efficient pollination services of bees would further impact Maryland produce farmers.



4. **Produce farmers in Maryland rely on honeybees** for pollinating many vegetables and fruits, including pumpkins, cucumbers, melons, beans and berries. And they rely on wild pollinators – native bees and bumblebees for pollinating tomatoes.

More than 1100 scientific studies indicate that neonicotinoid pesticides (neonics) play a



significant role in the ongoing bee die-off that is threatening our food supply.³ While disease, mono-cropping, habitat loss and climate change are significant factors in pollinator decline, neonics are confirmed to adversely impact pollinators both directly and via sub-lethal impacts – including impacting their memory, ability to forage and weakening their immune systems to diseases such as the varroa mite. Increasing habitat planted near neonic-treated fields has been shown to allow for habitat plantings to be contaminated as well.⁴

¹ White House briefing document, 2015: <http://1.usa.gov/1UDbW45>

² Colony Loss 2014-2015, Bee Informed Partnership. 05.13.2015 <https://beeinformed.org/2015/05/colony-loss-2014-2015-preliminary-resul>

³ Worldwide Integrated Assessment, The Task Force on Systemic Pesticides, 2015. http://www.tfsp.info/assets/WIA_2015.pdf

⁴ Neonicotinoid Residues in Wildflowers, a Potential Route of Chronic Exposure for Bees, Cristina Botias, et.al; Environ Sci. Technol., Oct. 10, 2015

5. **Most corn and soy seeds have been treated with neonics. Some vegetable and fruit seeds and seedlings that farmers purchase are likely to have been treated with neonics.** Currently farmers have no way of knowing if their seeds and seedlings are bee-friendly or bee-harming, as they are not labeled. Suppliers have been known to hedge questions regarding treatments, especially since they are not required to do so.
6. **Bees travel several miles while foraging,** which means that farmers who rely on bees for pollination cannot shield them from nearby crops contaminated with neonics. When farmers resort to pollinating by hand-vibrating of plants, crops become less abundant and less economical to produce.
7. **Urban farmers** working to reverse food deserts also will be impacted by fewer pollinators and cost of pollination services. And as less produce is locally grown, food prices will rise, having the greatest impact on our underserved communities.
8. **Safer strategies and products** that can be used to manage pests include;
 - ✓ Introducing natural predators, including ladybugs and beneficial wasps.
 - ✓ Pirate bugs, ground beetles, ladybugs, tachinid flies, trichogramma wasps, beneficial nematodes and lacewing larvae all help control pests. Trichogramms wasps and ladybugs eat the eggs of corn borers that also attack tomatoes. Ladybugs eat eggs of corn earworms, and ground beetles eat eggs, larvae and pupae of the corn rootworm, as do other predators.
 - ✓ Cultural practices can be used such as planting tolerant varieties, timing plantings carefully, crop rotation, and scouting first rather than spraying by the calendar.
9. **Integrated Pest Management (IPM)** focuses on non-chemical pest prevention with pesticides used as a last resort; pesticides are not used preventively in an IPM program. Lower-impact pesticides to consider in place of neonics include– Azaguard, Dipel DF, Entrust, Golden Pest Spray Oil, Bt-kurstaki and Pyganic.
10. **The sustainability of Maryland’s family produce farms is at stake.** While new hives have increased nationwide by about 20%, most are replacement hives for dead hives that have not been taken into account. These figures do not accurately reflect the truth on the ground, including the massive beehive losses during recent years in Maryland. With increasing numbers of beekeepers finding their industry financially unsustainable, and continued high numbers of bee losses- the lack of pollinators and pollination costs continuing to increase, will jeopardize family produce farmers who supply fresh produce to our local markets and farmers markets.



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