

Pollinator Protection Activities

AAPCO

March 2019



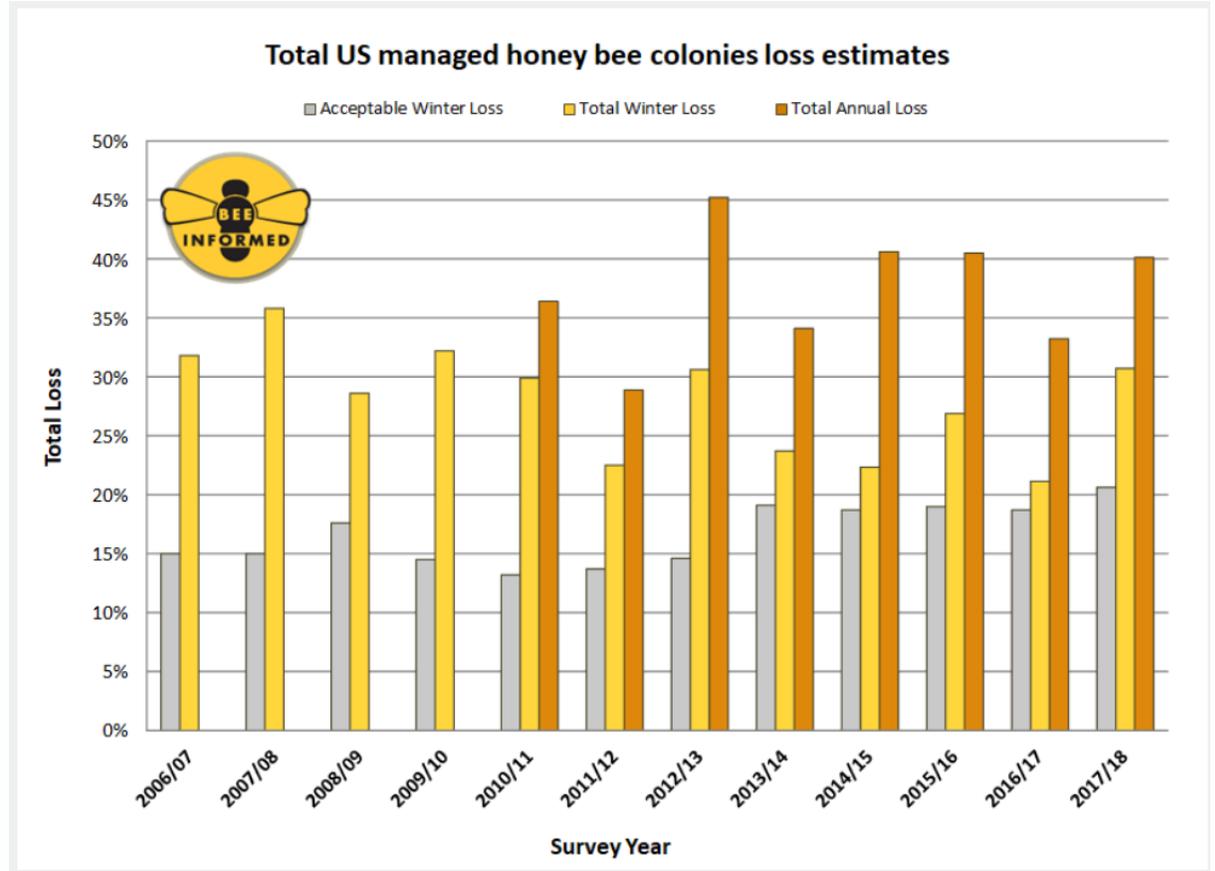
Status of Managed and Wild Bee Losses in the U.S.

Honey bees

- Avg. overwintering colony loss since 2008: 27.9%
- Overwintering loss (2017 – 2018): 30.7%
- Total annual loss (2017 – 2018): 40.1%

Wild bees (~3,500 spp. in North America)

- Populations of some species of wild bees are in decline
- Since 2017, several species of bees added to the Endangered Species List:
 - Yellow-faced bees
 - Rusty patched bumble bee

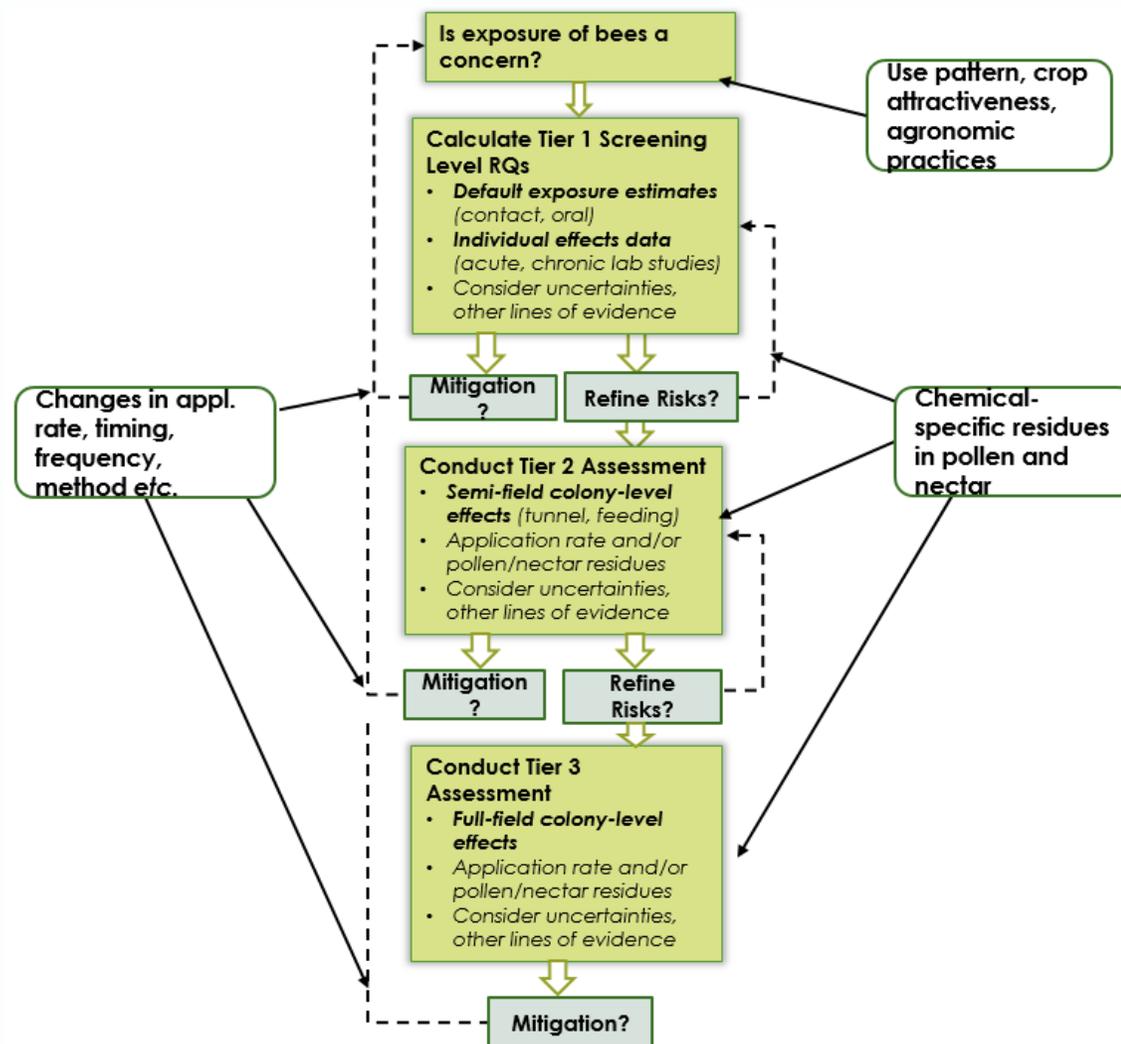


Source: <https://beeinformed.org/results/honey-bee-colony-losses-2017-2018-preliminary-results/>

ASSESSING THE EFFECT OF PESTICIDES ON BEES

Tiered Risk Assessment Process

- Screening-level risk estimates based on Tier 1 acute and chronic laboratory studies with adult and larval bees
- Higher-tier studies with honey bee colonies may be required pending the outcome of the Tier 1 analysis and risk manager need for additional refinement



Pesticide Mixtures

- EPA participated in a collaborative pilot study with the California Department of Pesticide Regulation to identify common pesticide mixtures used on almonds and based on California Pesticide Use Reporting (PUR)
- Data indicate that a wide array of products are tank mixed during the almond bloom period (Feb – Apr).
- There are multiple combinations even for a limited number of actives that are tank mixed.
- Tank mixes are applied to a relatively low percentage of acreage (*i.e.*, relatively low percent crop treated).
- Tank mixes of insecticides with fungicides in almonds occurred most frequently well before or after peak bloom.

Pesticide Mixtures

- While use data may be available for California, similar data are not available for other states and are likely commodity/ pest-pressure dependent.
- In the absence of similar use information for other states and the number/variety of tank mix combinations, it's not feasible to require toxicity testing on such combinations at this time to support risk assessments at a National level.
- Individual pesticides which may be used as a component of a mixture have already been mitigated to meet the FIFRA standard of no unreasonable risk to the environment.

Non-*Apis* Bee Testing

- Non-*Apis* bee exposure workshop in 2017 (academia; government; industry).
- EPA is continuing to rely on honey bees as a surrogate for non-*Apis* bees; however, when available, data on non-*Apis* bees are considered on a case-by-case basis to determine the extent to which honey bees are not suitable surrogates.
 - Data on non-*Apis* bees used qualitatively to characterize potential hazard to non-target organisms.
 - Quality of the non-*Apis* bee studies considered using the same standards as those applied to other taxa.
- Proceedings published in Environmental Entomology in December 2018 (<https://academic.oup.com/ee/article/48/1/4/5216322>)

FREQUENTLY ASKED QUESTIONS

Why an FAQ document?

- Responsive to stakeholder feedback.
- FAQs are intended to complement the suite of OECD and EPA Guidance documents and to:
 - promote more consistent feedback and a transparent process; and,
 - facilitate quicker dissemination of study design considerations.
- FAQs can be updated to reflect the most current state of the science.
- FAQs increase efficiency by improving the quality of the protocols and subsequent studies.

What is included in the FAQs?

- General direction for finding guidelines / guidance documents/supporting literature
 - Final EPA and OECD test guidelines and guidance documents for chronic adult and larvae studies.
- Responses to specific questions related to Tier I, II and III testing:
 - protocol submission;
 - study durations;
 - replicate definitions;
 - sublethal effect reporting; and,
 - clarification of endpoint definitions

The screenshot shows the EPA website's navigation bar with 'Environmental Topics', 'Laws & Regulations', and 'About EPA'. The main content area is titled 'Pollinator Protection' and 'Pollinator Risk Assessment Guidance'. It includes a sidebar with links like 'Pollinator Protection Home', 'Pollinator Health Concerns', and 'Risk Assessment'. The main text describes the EPA's strategy for assessing risks to bees and provides a list of PDF documents. A red arrow points to the document: 'Honeybee Toxicity Testing Frequently Asked Questions - August 16, 2018 [PDF] (16 pp, 599 K)'. Below the list is a 'Contact Us' link.

<https://www.epa.gov/sites/production/files/2018-08/documents/pollinator-faq.pdf>



RETROSPECTIVE ANALYSIS

Purpose of the Retrospective

- Evaluate the relative toxicity among the five Tier 1 studies, *e.g.*:
 - Acute adult contact vs. acute adult oral;
 - Acute adult oral vs. chronic adult oral; and,
 - Larval chronic vs. adult chronic.
- Evaluate factors that may impact overall toxicity and relative toxicity, *e.g.*:
 - Chemical class;
 - Solvent used; and/or
 - Mechanism of action.
- These analyses will help inform:
 - If missing toxicity endpoints can be extrapolated based on available data with confidence.
 - Situations in which testing burden may be reduced (*e.g.*, waivers granted) when a reduced data set would provide adequate toxicity estimation and characterization.
 - Will reduce data review burden for EFED scientists.

MITIGATING RISKS: POLLINATOR PROTECTION PLANS

Managed Pollinator Protection Plans (MP3)

- EPA continues to encourage development of MP3/P3s for States and Tribes
- States have engaged stakeholders (growers, applicators and beekeepers)
 - Most states have finalized, are still developing, or intend to develop a plan;
 - The majority of plans are voluntary;
 - For more information - <https://aapco.org/2015/07/20/current-topics/>
- Tribal Nations working with the Tribal Pesticide Program Council (TPPC) to develop P3s with a focus on native pollinators:
 - At least 10 tribes have or will be developing plans
 - For more information - <http://tppcwebsite.org/pollinators/>

Evaluating the Effectiveness of MP3s

- EPA needs a means to collectively evaluate the individualized, state-specific approaches to pollinator protection
- The Pesticide Program Dialogue Committee (PPDC) Workgroup formed in 2016 to:
 - develop recommendations for how to evaluate the effectiveness of state and tribal pollinator protection plans at the national level, and,
 - formulate a strategy to communicate that effectiveness to the public.

Evaluating the Effectiveness of MP3s

- In 2017, PPDC recommended development of a survey instrument.
- State lead agencies (AAPCO/SFIREG) developing/deploying the survey;
- Survey questions include measures of communication, development of best management practices (BMPs)/standard operating procedures (SOPs); education/outreach; stakeholder engagement; and, measures of behavior change/progress.
- AAPCO/SFIREG Survey to be distributed in early 2019:
 - Survey will be administered annually;
 - Initial survey year serves as a baseline.
- Survey results provide EPA a line of evidence in determining the efficacy of MP3 relative to reducing exposure of bees to pesticides.

Best Management Practices

- OPP has worked directly with the California Almond Board in the development of their BMPs.
- OPP serves as an *ex officio* member of the Honey Bee Health Coalition (HBHC) Steering Committee and has worked with the Coalition on the multiple projects intended to increase communication, cooperation and collaboration between beekeepers, growers and applicators; projects include commodity-specific BMPs; includes BMPs for beekeepers.
- OPP has worked with the Pollinator Partnership's North American Pollinator Protection Campaign (NAPPC) and the HBHC on the development of certified pesticide application training materials for continuing education credits.

QUESTIONS