
**THE ONTARIO
POLLINATOR HEALTH BLUEPRINT**

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INTRODUCTION AND BACKGROUND

The Pollinator Task Force

The Pollinator Task Force (Task Force) was assembled by Grain Farmers of Ontario to help identify opportunities to enhance pollinator and managed bee health; to develop options to work collectively on production and pest-management tools that support and promote pollinator health as well as other important environmental outcomes such as soil erosion and GHG emissions.

The Pollinator Task Force identified **five pillars** to enhance pollinator health in Ontario and is committed to addressing each pillar.

1. Habitat and Nutrition – to ensure adequate and appropriate forage for pollinators
2. Pesticide Exposure – in-hive and outside of the hive
3. Diseases and Parasites – affecting managed bees
4. Communication – between beekeepers, farmers, the public and other stakeholders
5. Measurement, Verification, and Collection Protocols – for benchmark data to determine the health of pollinators and managed bees in Ontario, as well as farm pest threshold data

Taking Action Now

Within the Ontario Pollinator Health Blueprint, actions are described to address the five pillars. Two key areas are identified as opportunities to significantly contribute to pollinator and managed bee health. These areas can be initiated immediately and are:

1. Establish one million acres of self-sustaining pollinator habitat that will provide a sequence of continuous blooms throughout the seasons
2. Reduce the risk of bee exposure to neonicotinoids and reduce the volume of neonicotinoid seed treatment in Ontario

Understanding the Current Context for regulations that will make a difference

To achieve enhancements in health for pollinators and honey bees, a complex matrix of activities is needed. Collaboration at the local, national, and international levels is required to enhance pollinator health – there is not a “single-solution” to pollinator health enhancement.

The proposals under the proposed seed treatment regulations need to address practical issues to have the desired impact. Moreover the regulations must contemplate and address both the complexity of pollinator health to ensure long-lasting positive impacts but must also contemplate the environmental impacts that neonicotinoids were designed to address – namely soil health, reduction of carbon footprint, and the environmental management of other inputs. It is imperative that we develop a regulatory system that protects and promotes pollinator health, while not unintentionally undermining other important environmental outcomes. We are concerned that farmers could be unintentionally incited to move away from environmental practices that actually provide habitat for bees, such as reduced/no-till and cover crops, reduce soil degradation, and help to sequester carbon in the soil.

Climate change is creating stressors for both farms and pollinators. Farms provide Ontario with ways to help mitigate climate change and to help keep Ontario’s air, land, and water clean. No-till and cover crops are one way farmers can help, and seed treatments are an important tool to support no-till practices. In Ontario, the adoption of conservation and no-till practices has increased from 22% conservation or no-till in 1991 to 63% in 2011. These tillage practices are possible in-part because of the soil pest control offered by neonicotinoid seed treatments. No-till farming provides many environmental benefits including reduced soil erosion, lower fuel and labour requirements, and reduced greenhouse gas (GHG) emissions. Soils can be a source or sink for CO₂ emissions depending on the soil management practices that are used. Tillage is one of the primary agronomic activities believed to reduce soil organic carbon (SOC). Estimates show 28% more GHG emissions under conventional tillage than under no-till.

Planting cover crops is another important environmental contribution that farmers make. Cover crops help reduce soil erosion, increase soil fertility, and assist in water management. Cover crops include clover, barley, and rye and provide habitat for bees and beneficial organisms. Predatory mites, ladybug beetles, and other beneficial insects benefit from the shelter and protection that cover crops provide.

Our collective objective must be to protect our environmental protection progress and continue on this trajectory. We must work together on the next generation of production and pest-management tools that further support pollinator health and other important environmental outcomes.

The Ontario Ministry of Agriculture and Rural Affairs, in conjunction with Grain Farmers of Ontario, produced the Guide to Early Season Field Crop Pests which explains that Integrated Pest Management (IPM) for field crops is a decision method that uses all available technologies to efficiently and economically reduce the pest population, while respecting health and the environment. The components of IPM are included in the chart, later in this document.

The Task Force supports the integration of the Guide to Early Season Field Crop Pests as a tool for grain farmers to use within their existing IPM programs. Recent research has demonstrated that the technology currently available to predict pest populations using the guide’s ‘field and pest assessment tools’ of scouting, sampling, thresholds, monitoring, prediction models, and trapping is both insufficient and unreliable. Further research is being conducted in this area – to date, the management tools available are not able to accurately predict the level of pest pressure that could be seen in corn and soybean crops. As a result, the Task Force recommends continuation of, and substantial investment into, research programs designed to develop and field-test robust pest prediction models.

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The Task Force is committed to working with farmers, beekeepers, and the agriculture industry to establish the following measurable and verifiable actions, administered in partnership with the public and the government. To ensure that the Task Force accomplishes its goal to enhance pollinator and managed bee health without undermining other environmental outcomes, the Task Force will establish benchmarks, measurement criteria, and an annual reporting system.

1. ONE MILLION ACRES OF POLLINATOR HABITAT ACROSS ONTARIO BY 2018

Establish one million acres of self-sustaining pollinator habitat that will provide a sequence of continuous blooms throughout the seasons. This will be achieved by repurposing farm land, private land, and public land for pollinator friendly habitat.

The habitat program will be initiated by implementing:

- Pollinator habitat registry to capture community pollinator programs and identify pollinator habitat locations
- Fence row recovery program and cover crop initiative
- Community directed habitat incentive program
- Public lands rehabilitation program

2. POLLINATOR HEALTH AND ENVIRONMENT INITIATIVE

Establish a Pollinator Health and Environment initiative to provide financial assistance delivering the Ontario Pollinator Health Blueprint action plan that will enhance pollinator health and environmental sustainability in Ontario.

3. SEED TREATMENT POINT OF PURCHASE VERIFICATION SYSTEM

Reduce the risk of pesticide exposure outside the hive by implementing a “Point of Purchase” verification system for all purchases of insecticide treated seed. This system will be subject to audits and will include:

- a) Mandatory training and licensing, under the Grower Safety Pesticide Course, for all farmers who purchase treated seed to ensure awareness of:
 - a. Best management practices related to pollinators
 - b. Legal obligation to follow “seed tag label” requirements that protect pollinators
 - c. Availability of mandatory seed bag recycling program
- b) Mandatory installation of equipment modifications on negative air pressure planters used to plant neonicotinoid treated seed and that are not compliant with ISO – 17962 (Agricultural machinery — Equipment for sowing —Minimization of the environmental effects of fan exhaust from pneumatic systems certification) to reduce fugitive dust drift emissions
- c) Registration of all farms who use neonicotinoid treated seed on DriftWatch¹

¹ DRIFTWATCH - is a voluntary communication tool that enables crop producers, beekeepers, and pesticide applicators to work together to protect specialty crops and apiaries through use of the DriftWatch registry mapping program. <https://driftwatch.org/>

4. TRANSPARENT SEED TREATMENT PRICING AND EDUCATION PROGRAM

Ensure all farmers have access to untreated seed, understand the cost differences between treatment options, and consider untreated seed options through discussion with their seed supplier. The Task Force recommends the following:

- a. Seed companies clearly show the difference in their price lists between insecticide treated, fungicide only, and bare seed (no seed treatments)
- b. Seed dealers verify on invoices that a discussion about seed treatment options has occurred with the grower. This could mean a statement such as “a discussion has occurred between our business and this customer about their seed treatment options and need for treated seed”
- c. Encouraging seed companies to make available “fungicide only” or “untreated seed” representing varieties in every maturity range required in Ontario

5. VOLUME REDUCTIONS IN NEONICOTINOIDS SOLD IN ONTARIO

Encourage the industry to take steps to reduce the volume of neonicotinoids sold in Ontario, through:

- a. A commitment by industry to reduce high rate applications (that do not exceed the minimum recommended label rate)
 - i. reduce the availability of the 500 application rate of neonicotinoid corn seed
 - ii. reduce the use of the 1250 application rate of neonicotinoid corn seed to be used in special circumstances only

6. INNOVATIONS THAT PROTECT POLLINATORS

Promote the adoption of innovations that reduce risks to pollinators, including:

- a. A replacement for neonicotinoid seed treatment and other insect control products that are “pollinator friendly”
- b. Evolutions in air planter technology that reduce fugitive dust
- c. New seed coatings that significantly reduce fugitive dust without negatively impacting seed germination
- d. Improvements in seed fluency agent or similar lubricants used

7. ENHANCEMENTS IN BEEKEEPING BEST MANAGEMENT PRACTICES

Improve the overall health of managed honey bees and reduce the exposure of pesticides in-hive through the implementation of a verification system that ensures:

- a. The adherence to standardized Bee Keeping Best Management Practices that are tailored to Ontario’s unique beekeeping environment, being developed by Agriculture and Agri-Food Canada (AAFC) Bee Health Roundtable
- b. Application technology to reduce exposure
- c. Mandatory registration on DriftWatch for all beekeepers

8. NEW PESTICIDES AND PHARMACEUTICALS TO COMBAT MITES AND PARASITES IN MANAGED BEES

Support for international efforts to eradicate the impacts of parasites and diseases on managed honey bees, including:

- a. Support existing initiatives that have prioritized the identification and development of new varroa mite control products and approaches, including the AAFC Bee Health Roundtable and the Honey Bee Health Coalition
 - i. Minor use registrations of active ingredients and veterinary drugs that are proven to improve mite and disease control in-hive
- b. Support initiatives that focus on future technology to improve bee genetics

- c. Support initiatives that are focused on to reducing the impacts of pests and pathogens on pollinators, including RNAi innovations for mites and identifying new control options for Nosema, AFB, EFB, etc.

9. FARMER AND BEEKEEPER EDUCATION AND PAIRING PROGRAM

Implement a program to improve communications between beekeepers and farmers.

- a. Workshops to deliver educational material that provides beekeepers and farmers with a full understanding of each other's businesses
- b. A young farmer/young beekeeper pairing program that provides an opportunity for networking and information sharing for the next generation of farmers and beekeepers, to gain a common understanding and ensure a sustainable future for both pollinators and grain farming in Ontario

10. POLLINATOR HEALTH RESEARCH & REPORTING PROGRAM

Establish a research program that will result in:

- a. In partnership with the Ontario government measure and report on import pollinator health indicators to track progress
- b. Immediate expansion of AAFC's National Monitoring and Surveillance program, to include Ontario honey bees
 - i. This surveillance program is set up to document the health profile of honey bee colonies in Canada and was initiated in 2014 in Manitoba and Alberta
- c. Assessments of Ontario's ecosystem to establish benchmark data on the health of pollinators in Ontario and the availability of habitat for Ontario pollinators
- d. Standardized reporting for managed bee health statistics and encourage the adoption of these practices by the Canadian Association of Professional Apiculturists' Statement on Honey Bee Wintering Losses in Canada and Annual Colony Loss Report
- e. The discovery and introduction of replacements for neonicotinoid seed treatments
- f. The discovery and introduction of new technology that reduces fugitive drift from seeds treated with neonicotinoids
- g. Improved best management practices for beekeepers and farmers including:
 - i. Parasite and disease management in hive
 - ii. Improved ability for farmers to determine pest threshold threats

TIMELINE FOR THE ROLLOUT OF THE POLLINATOR BLUEPRINT

Timeline	Outcome	Action	Verification
2016 - 2019	Ample forage and availability of habitat for pollinators and managed bees across Ontario	Establish one million acres of self-sustaining pollinator habitat that will provide a sequence of continuous blooms throughout the seasons	Habitat Registry to log: <ul style="list-style-type: none"> - Fence row recovery projects - Community habitat projects - Public land recovery projects
2016	Funding for pollinator initiatives	Establishment of a Pollinator Health and Environment Initiative	Funding for Pollinator Health and Environment Initiative
2015	Seed companies commitment to reduce higher rate applications for neonicotinoids	Reduction of the 500 seed treatment neonicotinoid application rate and reduced sales of the 1250 rate	Overall reduction in the volume of neonicotinoids used in Ontario
2016 – 2018	Benchmark Data on the current state of pollinator health in Ontario	Assessment of Ontario's ecosystem	Pollinator Health Annual Check-up Report
2016 – 2017	Reduced risk of pesticide exposure outside the hive	Mandatory licensing for farmers, equipment modifications, and seed bag recycling requirements Roll-out of Driftwatch	Ontario seed dealer point-of-purchase verification system

Timeline	Outcome	Action	Verification
2016- 2017	Thoughtful consideration of seed purchase decision making by farmers	Transparent untreated seed and treatment pricing program	Invoice to confirm transaction included discussion on seed treatment options
2017	Increased knowledge among beekeepers and farmers on each other's business	Pairing Program and workshops for farmers and beekeepers	Young farmer/beekeeper pairing program Data on participation numbers and survey to determine knowledge
2015 - 2017	Increased availability and registration of pesticides and pharmaceuticals to treat varroa mites and other parasites	Support from the Ontario agriculture industry for the Minor Use Pesticide Program, as well as efforts by AAFC	Availability of varroacide treatments
2015 – 2020	Research program to improve pollinator health	Research program and priorities established and implemented	Review results
2015-2018	An understanding of the current and annual condition of pollinator and managed bee health	Benchmark data on pollinator health in Ontario Annual surveillance of pollinator health	Annual Report - Ontario Pollinator Health Blueprint Implementation

APPENDIX

I. THE MEMBERS OF ONTARIO'S POLLINATOR HEALTH TASK FORCE

The Pollinator Task Force

The Task Force is comprised of a number of experts in the agriculture industry, who are committed to bee health improvement, including:

- Beekeepers
- Farmers
- Certified crop advisor
- Agriculture retailers
- Seed company representative

Over the last few years, many individuals and groups have looked at the issues facing pollinators and managed bees and have devised solutions. The Task Force is committed to building on the work that has already been completed.

The **objective** of the Pollinator Task Force is:

- To consider current farm and beekeeping practices in order to uncover and recommend changes that can be implemented to make meaningful contributions to enhance the health of pollinators and honey bees in Ontario

The Task Force reviewed the results of consultations with close to 1000 grain farmers across Ontario in early January of 2015, collected information from a variety of sources, and met with experts with field experience to formulate recommendations. These recommendations have been compiled into the Ontario Pollinator Health Blueprint, detailed in this document.

Mark Brock – Chairman, Grain Farmers of Ontario and grain farmer in Hensall, Ontario

Henry VanAnkum – Director, Grain Farmers of Ontario and farmer in Grey Bruce County

Scott Persall – Director, Grain Farmers of Ontario and farmer in Norfolk County

Hugh Simpson – Beekeeper and owner/operator of Osprey Bluffs Honey Company




John VanAlten – Beekeeper and owner/operator of Dutchman's Gold (honey)




Steve Denys – Vice-President, Pride Seeds and grain farmer in Chatham Kent

Clare Kinlin – Chair, Certified Crop Advisor Association

Dave Battenham – CEO, Ontario Agri-Business Association

II. RISK COMPARISON ONTARIO'S PROPOSED REGULATIONS AND THE BLUEPRINT

	 Cost/Economics	 Forage/Nutrition	 Pesticide Use/ Exposure
The Ontario government's proposed 80% regulations	<ul style="list-style-type: none"> • Increased potential for crop failure and yield loss • Farmer revenue loss estimated at \$630 million • Reduce GDP by estimated \$400 million • Lower domestic supply – risk to downstream industries • Anticipated reduced investment in farm technology and innovation 	<ul style="list-style-type: none"> • No commitment to dedicated pollinator habitat • Strained relationships between beekeepers and farmers • Decreased use of no-till and cover crops 	<ul style="list-style-type: none"> • Increased environment load, using high quantities of less effective chemistry

	 Cost/Economics	 Forage/Nutrition	 Pesticide Use/ Exposure
The Ontario Pollinator Health Blueprint	<ul style="list-style-type: none"> • Minimal anticipated impacts on yield • Minimal costs for grain industry and end-users 	<ul style="list-style-type: none"> • One million acres of pollinator habitat • Better relationships between beekeepers and farmers • Continued use of no-till and cover crops 	<ul style="list-style-type: none"> • Overall reduction in the volume of neonicotinoids used in Ontario • Trained/certified farmers using pesticide • Safe product for human health, applied in seed facility