



REDUCING DEPENDENCE ON SYNTHETIC PESTICIDES

Supporting more resilient agriculture
through a transitional approach



Photo : Ku

Recommendations for the Next Policy Framework (NPF)

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EXECUTIVE SUMMARY

Agriculture and Agri-Food Canada's (AAFC) Next Policy Framework (NPF) has the overarching objective of supporting the sustainable growth, innovation, adaptability, prosperity and competitiveness of Canada's agriculture sector. Each of these laudable objectives are hindered by Canada's ever-increasing overdependence on synthetic pesticides.

In the face of challenging contextual conditions like climate change, water pollution, soil degradation, and pollinator declines, the NPF must support production that reduces risks and enhances the foundations (soil, water, biodiversity, and air) upon which agriculture rests. The NPF also needs to respond to the objectives of the Pan-Canadian Framework on Clean Growth and Climate Change, including enhancing carbon storage in agricultural lands and advancing innovations to adapt to and mitigate climate change.

To these ends, the NPF must develop and implement a National Synthetic Pesticide Reduction Strategy as a critical component of a risk-reduction and climate change mitigation strategy. A National Synthetic Pesticide Reduction Strategy is a powerful tool that cross-cuts all NPF goals by enhancing the soil's ability to sequester carbon, reduce embedded energy budgets and greenhouse gas emissions, decrease water pollution and create healthier and more biodiverse ecosystems in which pollinators can thrive.

If done with appropriate government supports, including a vision and an action plan that supports producers to reduce dependence on synthetic pesticides by incentivizing Beneficial Management Practices (BMPs) that minimize use, producers will not suffer economic losses and early adopters will be the first to experience gains. The NPF must be sensitive to the fact that transition -- from high-risk, high-synthetic input, monoculture production towards lower-risk, low-synthetic input, more biodiverse and locally-adapted production -- occurs along a spectrum and that multiple strategies that are scaleable to diverse producer needs must be offered.

Suggestions for accessible and actionable solutions are offered across 5 of the 6 AAFC Priority Areas, and several build on programming from previous policy frameworks. In brief, investing in innovations, tools, capacity-building, knowledge transfer, fiscal incentives and insurance programs that support tested solutions like Integrated Pest Management, agroecological techniques, and Organic practices, will drive a more resilient sector that will support farm viability and achieve new successes in the production of quality Canadian agricultural products.

REDUCING SYNTHETIC PESTICIDE USE REDUCES RISK IN A CHANGING CONTEXT

Farm viability is conditional on multiple components, including: sustainable farm revenues; a fair income for producers; a well-functioning ecosystem with healthy soil, water and air; the health and well-being of producers carving out livelihoods on the land; and the vibrancy of rural communities dependent on agriculture for economic development and cultural preservation. Agriculture and Agri-Food Canada (AAFC) must consider all of these components in the development of the Next Policy Framework (NPF), in order to meet its core objectives of supporting a sustainable, innovative, prosperous, adaptable and competitive agricultural sector. What is critical to acknowledge is that Canada's agricultural overdependence and mounting dependence on synthetic pesticides not only negatively impacts all components of farm viability but also impedes potential progress on the NPF's laudable objectives.

Synthetic pesticide use in Canada continues to increase, and the report on the [Environmental Sustainability of Canadian Agriculture](#) (1981-2011) demonstrates that the [Pesticides Indicator](#) continues to deteriorate. This is not only because of the expansion of cropland dependent on synthetic pesticides but also because more synthetic pesticides are being applied per hectare in order to compensate for [their declining efficacy in the face of mounting pest problems, failed promises of genetically engineered crops, and strengthening pest resistance](#). Many producers are now applying a multiple-synthetic-pesticide approach-- even when using broad spectrum pesticides-- because the application of just one pesticide no longer works effectively. Ultimately, synthetic pesticides can only override, but not resolve, the ecological barriers to simplified and standardized monoculture production.

The prevalence and diversity of agricultural pests and diseases [is predicted to increase](#) in Canada with climate change. More than ever, agricultural production needs to be resilient, not only capable of withstanding mounting risks but also of adapting to and mitigating them. Synthetic pesticides can no longer be seen as the innovative solution, because of the following negative impacts:

- **Soil degradation for plant growth** - The quality of [Canadian agricultural soil has improved recently to "moderate"](#), but much more can be done to improve the overall health, and specifically, organic matter content of Canada's fertile soils. Synthetic pesticides kill important soil bacteria and fungi, organisms that play a critical role in the creation of organic material to drive plant growth. Multiple studies show that yields drop, and sometimes even crash, as soil health and ecosystem functions reach a tipping-point after years of synthetic pesticide
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applications.

- **Soil degradation for carbon sequestration and climate change mitigation** – The soil’s capacity to sequester carbon is dependent on the soil’s organic material. Although agricultural soils should be one of Canada’s most important carbon sinks, synthetic pesticides kill the fungi and bacteria necessary to build soil organic matter and reduce the sector’s potential for carbon sequestration and climate change mitigation. Over the past 20 years, across some areas in Canada, organic matter in Canadian fertile soil [has significantly decreased](#), and the risk of soil organic carbon degradation [remains high](#).
- **Water quality** – Although water conservation practices are improving across Canadian agriculture, [water quality is deteriorating](#). Synthetic pesticides are [increasingly leaching](#) into watersheds across Canada, contaminating and toxifying ecosystems. Synthetic pesticides are not only found in watersheds across Canada but also in treated drinking water, both of which are concerning considering their impacts on the environment and human health.
- **Health of pollinators** – [Declines in pollinator populations](#), including bees and monarchs, are related to health impacts associated with exposure to synthetic insecticides, and habitat and food source loss due to the increased use of synthetic herbicides. Pollinators are critical in the production of many Canadian crops and play an essential ecological role within Canadian ecosystems.
- **Economic viability** – Yield gains in Canadian agriculture have been dramatic, but the scale of increase in these yields and profits have not kept pace with the rate of increase in use of synthetic pesticides (including treated seeds) and their associated costs. The most recent Canadian Census (2016) shows that farm profits are not growing, whereas farm debt continues to mount in part because of the increasing costs of treated seeds and synthetic pesticides. Producers using treated seeds and high doses of synthetic pesticides will be increasingly forced to face reduced profits in order to maintain competitive farm gate prices.

Reducing synthetic pesticide use in Canada does not have to come at the expense of profitability. More and more studies show that reducing synthetic pesticide use does not negatively affect producer revenues. For instance, [a recent major study](#) showed that synthetic pesticide use could be cut significantly on over three quarters of farms without revenue losses, or losses in yields. The idea that pesticides are essential to feed a growing global population has been declared a “myth” in March 2017 [in a report by the UN](#) Rapporteurs on food and pollution. The report severely criticizes the global pesticide manufacturers of “systematic denial of harms”, “aggressive, unethical marketing tactics”, and lobbying which has “obstructed reforms and paralyzed global pesticide restrictions”.

SUPPORTING ALL PRODUCERS TO REDUCE SYNTHETIC PESTICIDE USE THROUGH A TRANSITIONAL APPROACH

In Minister MacCaulay’s mandate letter, the Government of Canada is committed to:

“...work with provinces, territories, and other willing partners, to help the sector adjust to climate change and better address water and soil conservation...”

To achieve this commitment, it is imperative that Canada’s agriculture transition to **production that decreases the use of synthetic pesticides by supporting and incentivizing Beneficial Management Practices (BMP) that encourage soil regeneration, low embedded energy budgets, pollinator health, and water conservation.** These BMPs are dependent on locally-adapted, made-in-Canada solutions that meet the needs of diverse ecological systems in which agriculture is embedded. **Because Canada’s overdependence and mounting dependence on synthetic pesticides has degrading and destabilizing effects on the foundations upon which agriculture rests, an NPF that reduces dependence on synthetic pesticides and encourages BMPs will reduce production risks and foster resilience in Canada’s agriculture sector (Table 1.).**

Table 1. Agricultural production that is highly dependent on synthetic pesticides is high-risk production because of the destabilizing impacts synthetic pesticides have on the ecosystem upon which agricultural production depends. In comparison, agricultural production less dependent on synthetic pesticides and employing Beneficial Management Practices (BMPs) – including Integrated Pest Management (IPM), agroecological practices, and Organic practices -- is more resilient and less risky because of its capacity to adapt, as well as its potential to reduce and even mitigate risks.

Impact and Risk	High dependence on synthetic pesticides	Reduced dependence on synthetic pesticides
CARBON SEQUESTRATION	Reduced capacity of soil to sequester carbon - agriculture contributes to climate change INCREASED RISKS	Increased capacity of soil to sequester carbon - agriculture mitigates climate change MITIGATED RISKS
PLANT GROWTH	Decreased soil organic matter for plant growth - Agriculture becomes less viable over time INCREASED RISK	Builds soil organic matter for plant growth - Agriculture becomes more resilient and prosperous DECREASED RISK
POLLINATOR HEALTH	Decreased pollinator health - Agriculture becomes more precarious because of pollinator’s critical ecosystem service INCREASED RISK	Does not disturb pollinator health - Agriculture is not destabilized MANAGED RISK

BIODIVERSITY	Decreased biodiversity because of toxicity – Agriculture’s ability to adapt decreases in disrupted ecosystem INCREASED RISK	Enhanced biodiversity because BMPs encourages diversity – Agriculture’s ability to adapt within well-functioning ecosystem is enhanced DECREASED RISK
VULNERABILITY TO PESTS	Increased vulnerability to pest outbreaks and resistance – Agriculture’s ability to adapt decreases and yields suffer INCREASED RISKS	Pest outbreaks are closely observed and managed; pest resistance is prevented – Agriculture continues to be adaptable and yields are stable MITIGATED RISKS
NUTRIENT LOAD	Increased nutrient leaching because of decreased organic soil matter – Agriculture’s ability to produce yields decreases INCREASED RISK	Reduced nutrient leaching because of stable organic soil matter – Agriculture’s ability to produce yields stable DECREASED RISK
WATERSHED	Watersheds are toxified from synthetic pesticides – Overall ecosystem health and agriculture’s water supply deteriorate INCREASED RISK	Watersheds maintain health – Water supply maintained MANAGED RISK
EMBEDDED ENERGY AND GREENHOUSE GAS EMISSIONS	High embedded energy budget from manufacture, transport & application of synthetic pesticides – Agriculture increases GHG emissions INCREASED RISKS	Lower embedded energy budgets – Agriculture decreases GHG emissions MITIGATED RISKS

A National Synthetic Pesticide Reduction Strategy, with an overarching vision and an action plan that incentivizes transition to BMPs including Integrated Pest Management (IPM) practices, agroecological practices, and Organic practices, is a universal risk-reduction and climate-mitigation plan for the NPF. The National Synthetic Pesticide Reduction Strategy needs to put an emphasis on transition for all producers in all sectors, by recognizing and supporting incremental and scaleable solutions along a spectrum.

Examples of national synthetic pesticide reduction strategies can be found around the world, like in [Germany and the UK](#). Also, the province of Quebec has an ambitious [Pesticide Reduction Strategy](#) that should be used as a strong benchmark for what needs to be encouraged across all provinces and territories from leadership at the Federal level. The most effective national strategies for synthetic pesticide reduction are those that are combined with strategies that incentivize BMPs, particularly in Integrated Pest Management and more generally, in supported transitions to agroecological practices. France has been a global leader in this initiative after acknowledging that their national pesticide reduction strategy was not [achieving its goals and targets without the necessary support for capacity-building and incentives for transition](#) to BMPs generally, and agroecology more specifically. As a result, France developed the first [agroecological transition plan](#), including transition payments for producers, transition planning centres, marketing supports and farmer networks.

RECOMMENDATIONS FOR AAFC'S PRIORITY AREAS

The following recommendations are all important components of a National Synthetic Pesticide Reduction Strategy in Canada that incentivizes transition for all producers to reduce synthetic pesticide use. Recommendations are provided for 5 of the 6 Priority Areas of the NPF, and practical and immediately implementable examples are offered.

NPF PRIORITY AREA 1: Science, Research and Innovation

Recommendation 1. Support research in innovations that reduce dependence on synthetic inputs.

Research and Development (R&D) funded under the NPF must prioritize building better understandings and innovations in the following areas in order to encourage reductions in synthetic inputs:

- [Integrated Pest Management \(IPM\)](#) practices
- [long-term and diversified crop rotation](#)
- diversified intercropping and cover crops
- soil regeneration and carbon sequestration
- pollinator health, including the protection and enhancement of habitats and food sources
- watershed health, including reduction of water pollution
- participatory development and breeding of locally-adapted, low-synthetic input seed
- practices that encourage low embedded energy budgets

These are some of the most important Beneficial Management Practices (BMPs) that will help to reduce dependence on synthetic pesticides. Other practices drawn from agroecology and Organic agriculture are also BMPs and should be prioritized in R&D funding.

Recommendation 2. In partnership with producers, invest in the development of locally-adapted, Beneficial Management Practice (BMP) tools that make reducing synthetic pesticide use accessible and achievable for all producers.

A diversity of tools in locally-adapted BMPs, drawn from Integrated Pest Management, agroecological practices and Organic practices, need to be developed in order to offer viable and tested strategies to producers of various scales and production types. Tools help producers build confidence in the adoption of new practices and manage risk in their transition away from synthetic pesticides. Transitioning to new practices is always associated with a certain amount of risk for producers, but

accessible and tested tools in BMPs can be used to manage transition uncertainties and achieve quick successes, while also fostering a general sense among producers that no matter how risky transition may seem in the short-term, reduced synthetic pesticide use actually *lowers* risks in both the short- and long-term.

AAFC's Pest Management Centre has created important resources for low-synthetic pesticide agriculture for some crops grown in Canada through the [Sustainable Crop Protection Fact Sheets](#). These provide approaches to pest management that maintain yields while using locally-adapted BMPs that reduce dependence on synthetic inputs. The NPF should support collaborative work between producers who are already engaged in BMPs and the Pest Management Centre to build fact sheets for all Canadian crops. Over the next 5 years of the NPF, the expanded catalogue of Sustainable Crop Protection Fact Sheets should replace the [AAFC Crop Profile](#) fact sheets which are overly reliant on the application of synthetic inputs as crop management solutions. The Sustainable Crop Protection Fact Sheets should be made into accessible tools for producers to make transitions to more resilient management practices.

Examples of successful tools have been created by producer groups in Canada, like those from the [Prairie Organic Grain Initiative, on green manures](#) and [low synthetic input weed management](#) to enhance fertility and manage pests in Canadian grain production. Local agronomists have been trained in these tools for knowledge transfer, empowering producers to better understand, prepare for and adopt more resilient, agroecological practices and/or make the transition to Organic production.

Recommendation 3. Invest in a) capacity-building for agronomists and farmer organizations in the dissemination of locally-adapted BMP tools, and b) knowledge transfer from agronomists to producers and producer-to-producer.

R&D in innovative and locally-adapted BMP tools needs to be disseminated to producers. The NPF must support training for agronomists in best practices and tools, and the dissemination of these practices to producers. The NPF should also encourage and invest in producer-to-producer knowledge exchange programs that support the uptake of best practices, through mentorship programs, farmer field schools, and farmer organizations. There is currently an innovation failure in Canadian agriculture in that producers often cannot capture the economic benefits of their innovations through traditional means such as patents or intellectual property rights. Particularly as it concerns pest management, innovation benefits are mostly captured by large agro-businesses, and imported into Canada. Investing in local research, tools and capacity building (Recommendation 2) and knowledge dissemination (Recommendation 3) is essential to encourage made-in-Canada solutions, and ensure Canadian producers are encouraged to innovate alongside agronomists and agricultural scientists, and reap rewards for their innovations.

Recommendation 4. Conduct a life cycle assessment of embedded energy in each sector of agriculture, and reward producers for energy efficiency.

The dominant system of agricultural production in Canada today has been referred to as the “art of turning oil into food” (Clark and York 2008), and this is in no small part because of the manufacturing, transport and application of synthetic pesticides. It is also related to the long distances agricultural products travel (food miles), and heavy mechanization of production. This dependence on fossil fuels is no longer sustainable in the face of worsening climate change.

Emissions from Canadian agriculture and forestry account for over [12% of Canada’s emissions](#) and within the current context, these are not projected to significantly change by 2030. The Pan-Canadian Framework on Clean Growth and Climate Change requires a 30% reduction of greenhouse gas emissions below 2005 levels by 2030. AAFC must ensure that the NPF responds to achieve the necessary reductions within the sector.

In order to better understand what this will require, AAFC needs to draw on local expertise to conduct a life cycle assessment of each agricultural sector to quantify and assess each sector’s embedded energy budgets. This assessment should be used to set baselines and targets, aligned with rewards, that reward all producers with low embedded energy budgets. Although incentives must be used to scale-down energy budgets, producers with already low energy budgets should also benefit from the rewards.

Recommendation 5. Invest in innovations that recognize and support the multifunctionality of agriculture.

Yields are an important determinant of agricultural success, but this can’t be the only driver of innovation dollars. Innovation must be driven by more holistic goals that encourage the multifunctionality of agriculture. This means that innovations must recognize and work to enhance the multifaceted benefits of agriculture, like its role in ecosystem functions and cultural vibrancy. A shining example of the kind of innovation that promotes multifunctionality and encourages reductions in synthetic pesticide use is one emanating from New York: [producers farming in the New York City watershed are supported and subsidized to maintain sustainable practices](#) in order to protect the quality of New York City’s drinking water. This is not only a cost-saving tactic but also a means to enhance local economic development because regional subsidies paid to farmers are supporting a municipality in the maintenance of a required service at a lower cost, while promoting local economic development.

Recommendation 6. Expand investment in Research and Development in the Organics Industry.

[Principles of Organic agriculture](#) offer great examples of Beneficial Management Practices in agriculture, and investing in research and innovation in Organics, as well as widespread knowledge transfer, will benefit all producers in their transition.

The Organics Industry is the fastest growing market in Canadian agriculture, and has achieved great success; however, production practices in Organics can continue to improve with innovations in yields and pest and fertility management. Investment in Organics benefits the whole agriculture sector, because [innovations to the Organic Industry's production practices and markets](#) will have trickle-out effects when disseminated properly through knowledge transfer to non-certified producers in transition to low synthetic pesticide production.

At the very least, the NPF should expand investment in R&D in the Organics Industry proportional to its market share, and adjust it annually as the share of the Industry continues to grow.

NPF PRIORITY AREA 2: Environmental Sustainability and Climate Change

Many of the [most used pesticides in Canada are not as necessary](#) as manufacturers have touted, which means that Health Canada's Pest Management Regulatory Agency (PMRA) is registering synthetic pesticides that continue to harm the foundations of agriculture without significant benefits, rather than regulating registrations and reducing use and risk. The PMRA's value of pesticide assessment uses a definition of 'efficacy' that depends only a small incremental increase in yields or pest control, which often does not prove accurate in real field conditions after the pesticide has been approved for use in Canada.

Whereas the PMRA must improve its processes of regulating pesticides in Canada to better protect human health and the environment, the AAFC also holds a critical responsibility and vested interest in encouraging the reduction of synthetic pesticides used in agriculture. Pollution from perpetually increasing use of synthetic pesticides in agriculture is threatening the quality of Canadian fertile soil, air and water, and threatening these foundations threatens the viability of the agricultural sector itself. The NPF must systematically reduce synthetic pesticide use in Canadian Agriculture as a crucial means of remedying mounting risks and regenerating the resources the sector relies on.

Recommendation 7. Develop an overarching vision and strategy with measurable outcomes to reduce synthetic pesticide use across all agricultural sectors.

Synthetic pesticide use reduction can be envisioned and encouraged in multiple ways. Drawing from case studies from around the world and in Canada, the following are some examples of strategies with measurable outcomes for synthetic pesticide reduction.

- Develop pesticide use reduction targets across agricultural sectors that are supported by fiscal incentives, potentially through the Business Risk Management programs (see **Risk Management** below for more details). These targets would be set according to achievable sectoral goals and based on research data that demonstrates that significant reductions can be achieved with no to minimal financial loss for producers. For instance, research across multiple European countries shows that pesticides can be reduced by 50% without any noticeable change in yield in [cereal crops -- some of the hardest crops to reduce pesticide use--](#) if strong IPM tactics are applied. Studies like this one can be drawn upon to create targets for all sectors.
- Another approach is to mandate that synthetic pesticides can only be used by producers as a last resort, and require the pre-approval from an agronomist who has performed a site visit. This strategy aligns with IPM because synthetic pesticides are seen as a management strategy of last resort, and this “synthetic pesticide use by prescription only” approach is being proposed in [Quebec’s Pesticide Strategy](#).
- Although incentives to transition away from pesticide use, rather than disincentives for use, is more favourable for all producers, the Government of Canada’s “polluter pays principle” could be used to impose a fiscal disincentive on synthetic pesticides use, through a tax on synthetic pesticides [as explained through examples, including that in British Columbia, by the UNDP](#).

As part of the National Pesticide Reduction Strategy, the NPF should also prioritize modifying AAFIC’s [Pesticide Minor Use Program](#) to include the presence of agronomists trained in IPM in the decision-making process so that the Minor Use crops are managed using principles of IPM and the new registration of synthetic pesticides is seen as a last resort.

Recommendation 8. Incentivize the adoption and practice of BMPs that reduce synthetic pesticide use.

The NPF must reward BMPs, through tax credits, rebates, ecosystem service markets, fully subsidized agronomist services, and/or increased support through the Business Risk Management programs (see **Risk Management** for further details).

For example, a highly efficacious IPM strategy to reduce dependence on synthetic pesticides is to make use of [innovative cropping systems](#). Take [canola](#), one of Canada’s top agricultural sectors, for instance: a 4-year crop rotation is crucial to reduce the risk of multiple types of pest outbreaks but some Canadian producers have reduced crop rotations to 2 years and some to back-to-back production because of economic imperatives; synthetic pesticide use in canola therefore continues to

increase. If a cropping system designed around the 4-year standard for canola rotation was recognized as a practice that inherently reduces risks and incentivized through an innovative Business Risk Management program, Canadian canola producers would feel less economic compulsion to hasten rotation.

These kinds of fiscal incentives for BMPs will also help AAFC achieve the goals of the Pan-Canadian Framework on Clean Growth and Climate Change to protect and enhance carbon sinks, and advance GHG management practices. This is because incentivizing BMPs that reduce synthetic pesticide use will encourage widespread adoption, and these kinds of practices regenerate soil health to achieve [large successes in carbon sequestration](#).

Recommendation 9. Eliminate fuel subsidies and encourage fuel switching to lower carbon fuels.

Minister MacCaulay's mandate letter states that AAFC should "support the Ministers of Natural Resources and the Environment and Climate Change in making investments that will make our resource sectors world leaders in the use and development of clean and sustainable technology and processes." Like all industries in Canada, agriculture needs to represent the true costs of production. Fuel subsidies, like the [Alberta Farm Fuel Benefit](#) as just one example, disincentivize transition to more resilient agriculture. The NPF should not only support the Ministers of Natural Resources and the Environment and Climate Change to invest in cleaner technologies for agriculture, but should also incentivize producers transitioning to cleaner energy sources (e.g. electrification, renewable biofuels) because of the impact it will have on the sector's greenhouse gas emissions.

NPF PRIORITY AREA 3: Risk Management

Business Risk Management (BRM) programs have shaped a crucial component of Growing Forward 2 and need to continue to be an important part of the NPF. What needs to be recognized by the NPF's BRMs is that applying BMPs in agriculture, including reducing dependence on synthetic pesticides, inherently reduces risk. This means that BMPs, included Integrated Pest Management, practices in agroecology, and practices in Organics, are business risk management strategies in and of themselves. Producers practicing BMPs must therefore be rewarded through the BRM suite of the NPF. Minister MacCaulay's mandate letter states that AAFC is to "work with producers and provincial governments to assess whether the suite of farm income safety nets meets the needs of Canadian farmers when they are faced with serious challenges beyond their control." However, the current suite does not address the needs of farmers transitioning to, or using, BMPs. This means that the current BRM programs do not incentivize reductions in synthetic pesticide use.

Recommendation 10. Recognize Beneficial Management Practices that reduce dependence on synthetic pesticides as risk mitigation strategies for BRM program eligibility and preferential support

The NPF's BRM suite must encourage BMPs that increase resilience and lower risk. This means that the BRM suite not only needs to be adapted to recognize producers practicing BMPs as not only eligible but also low-risk, deserving of favourable insurance conditions and compensation packages.

These could include:

- enhanced matching contributions to AgriInvest for producers reducing dependence on synthetic pesticides and employing BMPs.
 - premium insurance rates and preferential conditions for low-risk, low synthetic pesticide producers using BMPs through AgriInsurance. Eligibility for AgriInsurance is currently based on large-scale production of the same commodity year after year in order to set the reference for comparison. Producers practicing more diverse production, including regular crop rotations (a critical technique for Integrated Pest Management, as explained previously in the canola example), cannot currently benefit from these programs, despite the fact that this practice is actually reducing risks. AgriInsurance needs to be adapted to give preferential rates to producers engaging in BMPs that reduce synthetic pesticide use because these practices reduce risk. Pooled insurance schemes, like the Corn Mutual Fund (Il fondo mutualistico per il mais) from Italy, provides an example of how this is implemented elsewhere. This program is referenced by the [Green Budget Coalition](#) as an approach that “reduces the financial risk of significant pest damage to crops, while avoiding the environmental costs of pesticide use and encourages integrated pest management practices (IPM). To be eligible for coverage, farmers must buy into the scheme, avoid the use of priority pesticides and demonstrate rigorous implementation of IPM practices.”
 - use standard insurance principles to guide the conditions of AgriStability to give preferential treatment to producers engaging in lower-risk, lower synthetic pesticide production. Producers using less synthetic pesticides and employing BMPs reduce their chances of large revenue losses and maintain lower expenses relative to other producers. Currently, AgriStability is biased towards producers with high risk, high expense, monoculture production, because AgriStability requires that a) the producer claims 70% loss in revenue in order to be eligible, which is unlikely for lower-risk, more diverse farms practicing BMPs and b) the Reference Margin for coverage is set according to expenses, which is higher for high-input, higher-risk farms and typically lower for producers practicing BMPs and using less synthetic pesticides and treated seeds.
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Recommendation 11. Recognize that producers transitioning to Organics and engaged in Organic production should equally benefit from BRM programs

Équiterre supports the detailed recommendations put forward jointly by the Organic Industry and partners, including Canadian Organic Growers, Canadian Organic Trade Association, Organic Federation of Canada, and USC Canada in this regard.

NPF PRIORITY AREA 4: Markets and Trade

The NPF is charged with “recognizing the importance of business development activities and opportunities; and addressing market access challenges to pursue and capitalize on new opportunities and maintain access to existing markets.”

Over the past 20 years, Équiterre has developed what has been deemed at international meetings as the world’s best organized network for Organic Community Shared Agriculture. This success has been based on the increased viability of Organic production in Quebec (in part as a result of a strong provincial strategy for Organics), increased consumer interest in eating locally-sourced, sustainably-produced healthy foods, and Équiterre’s marketing strategies connecting producers with consumers. Équiterre’s “*Réseau de fermiers de famille*” now connects 131 farms with 57,000 citizens. This is a shining example of a project driven by civil society that has had important impact for the province of Quebec along economic, agricultural, community, and environmental lines. It serves as an emblematic pilot project to show that similar marketing strategies should be supported in all provinces and territories through the NPF.

Recommendation 12. Support diverse, short-supply chain marketing opportunities

The NPF should provide support for diverse, short-supply chain marketing opportunities through various avenues, like investments in programs like Équiterre’s *Réseau de Fermiers de Famille*, local market coordination and management, the creation and enhancement of food hubs, and other innovative, short-supply chain marketing strategies.

Support for short-supply chain markets will also help reduce greenhouse gas emissions from long-haul trucks transporting food, which is a crucial goal of the Pan-Canadian Framework on Clean Growth and Climate Change and a responsibility of the AAFC’s NPF.

Recommendation 13. Support the expansion of the Organic market both domestically and internationally

Canada has the 5th largest Organic market in the world valued at \$4.7 billion a year, and demand for Organics continues to increase at a rate of 16% per year. Domestic supply is not keeping pace with increasing demand. A recent poll by the Canada Organic Trade Association shows that 56% of Canadians buy Organics weekly, and that 86% of these consumers have maintained or increased their organic purchases in the last year.

As the Canadian Organic Growers, Canada Organic Trade Association, Organic Federation of Canada and USC Canada state in their recommendations to the NPF: “Canada can stimulate clean and inclusive economic growth and take immediate action on climate change through strategic investments in organic agriculture.” Équiterre endorses the detailed recommendations put forth by these organizations with regards to Organic market expansion both domestically and internationally.

NPF PRIORITY AREA 5: Public Trust

The [2016 Canadian Public Trust Research Report](#) shows that Canadians’ trust in Canada’s food and agriculture system is as low as it ever has been. Only 23% of those surveyed reported that they trust that the government food inspection system ensures the safety of Canadian food and only 29% agreed Canadian farmers are good environmental stewards. 46% of Canadians said they were personally concerned about the use of pesticides in crop production.

In a recent national poll conducted by Gandalf Group, the majority of Canadians expressed that they do not trust the Government of Canada to appropriately regulate pesticides. Although pesticide regulation is the responsibility of Health Canada, the same poll showed that for most Canadians, pesticide use is primarily associated with agricultural production, and that their biggest concerns were associated with pesticides used in agriculture contaminating water and impacting wildlife like pollinators. AAFC must acknowledge its shared responsibility with Health Canada to build the trust of Canadians in our agricultural sector and its responsible use of synthetic pesticides. This starts by ensuring that Canadians have the information necessary to better understand the role, spread and impact of pesticides in Canadian agriculture.

Recommendation 14. Invest in the expansion of monitoring and data collection of synthetic pesticide use in agriculture.

Canadians’ trust in our food system depends on access to credible information. The NPF should invest in pesticide use monitoring and data collection. In agreement with the Green Budget Coalition, the NPF should at the very least revive and expand Environment and Climate Change Canada’s National Pesticides Monitoring and Surveillance Network, “to support effective assessment and regulation of agricultural pesticides and reduce environmental risks”. For further improvements, the AAFC can draw on leading international examples like the [California Pesticide Information Portal \(CalPIP\)](#).
