

**CANADA
PROVINCE OF QUÉBEC
DISTRICT OF MONTRÉAL
NO: 500-06-000714-143**

**(Class Action)
SUPERIOR COURT**

Steve Martineau

Plaintiff

v.

Bayer CropScience Inc.

and

Bayer Inc.

and

Bayer CropScience AG

and

Syngenta Canada Inc.

and

Syngenta International AG

Defendants

**RE-RE AMENDED APPLICATION FOR AUTHORIZATION TO INSTITUTE A
CLASS ACTION AND TO OBTAIN THE STATUS OF REPRESENTATIVE
(Articles 574 CCP and following)**

**TO THE HONOURABLE JUDGE THOMAS M. DAVIS OF THE SUPERIOR
COURT OF QUÉBEC, SITTING IN PRACTICE DIVISION, IN AND FOR THE**

DISTRICT OF QUÉBEC, THE PLAINTIFF RESPECTFULLY SUBMITS THE FOLLOWING:

THE PLAINTIFF WISHES TO INSTITUTE A CLASS ACTION ON BEHALF THE CLASS OF PERSONS HEREINAFTER DESCRIBED, NAMELY:

1. The Plaintiff intends to institute a class action on behalf of the persons forming the class hereinafter described and of which the Plaintiff is a member ("the Class"), namely:

All persons in Quebec who own or owned Bees in the Affected Area during the Class Period.

DEFINED TERMS

2. In this Application, and in addition to terms defined elsewhere herein, capitalized terms have the meanings set out below:
 - (a) "**Affected Area**" means the area located in, and within seven miles of, regions zoned and designated for agricultural use in Quebec;
 - (b) "**Bayer Defendants**" means the defendants, Bayer CropScience AG, Bayer CropScience Inc. and Bayer Inc.;
 - (c) "**Bee**" or "**Bees**" means honey bees (*Apis mellifera*), which are flying insects known for their role in pollination and for producing honey and beeswax. **Bees** feed on pollen and nectar for an energy source, and use pollen primarily for protein and other nutrients, and store pollen, nectar and honey. For greater certainty, **Bees** includes **Queen Bees**;
 - (d) "**Beehive**" means an enclosed structure used by humans to house a **Bee** nest, and used by **Bees** to live and raise their young and produce honey. The **Beehive** is built in a manner that allows for the collection of honey that is produced;
 - (e) "**CBCA**" means the *Canadian Business Corporations Act*, RSC 1985, c C-44;
 - (f) "**Class**" or "**Class Members**" means all persons in Quebec who own or owned **Bees** in the **Affected Area** during the **Class Period**;
 - (g) "**Class Period**" means the period between January 1, 2006 and the date on which this action is authorized as a class proceeding;

- (h) "Colony" or "Colonies" means a **Bee** colony that consists of a single **Queen Bee**, male drone **Bees**, and female worker **Bees**, as well as developing **Bee** eggs, larvae and pupae;
- (i) **"Defendants"** means the **Bayer Defendants** and **Syngenta Defendants**;
- (j) "Forage" means the food supply consisting of nectar and pollen for **Bees** from blooming plants within flight range, and "Foraging" means the activity of the **Bee** collecting the food supply;
- (k) **"Health Canada"** means the Canadian Federal department responsible for helping Canadians maintain their health and includes the **PMRA**;
- (l) "Insecticide" means a substance that is used to kill insects and has the same meaning as pesticide which is a substance used to kill insects, small animals, wild plants and other unwanted organisms;
- (m) "Neonicotinoids" means imidacloprid, clothianidin and thiamethoxam, which are the members of the neonicotinoid class of broad-spectrum **Insecticides** or pest control products, that are researched, designed, manufactured, distributed, marketed and/or sold by the **Defendants**;
- (n) **"OMAFRA"** means the Ontario Ministry of Agriculture, Food and Rural Affairs, and includes both the former Ministry of Agriculture and Food and the Ministry of Rural Affairs;
- (o) **"Plaintiff"** means the Plaintiff, Steve Martineau;
- (p) **"PMRA"** means Health Canada's Pest Management Regulatory Agency;
- (q) **"Queen Bee"** means a **Bee** that is the single reproductive female in a **Beehive** or **Colony** of **Bees**;
- (r) **"Syngenta Defendants"** means the defendants, Syngenta International AG and Syngenta Canada Inc.;
- (s) **"US EPA"** means the United States Environmental Protection Agency; and

(t) "USDA" means the United States Department of Agriculture.

THE PLAINTIFF'S PERSONAL CLAIM AGAINST THE DEFENDANTS IS BASED ON THE FOLLOWING FACTS:

THE PLAINTIFF

3. The Plaintiff Steve Martineau and his spouse Marie-Eve Cyr operate a family business specialized in the breeding of queen bees under the name of the Château de Cyr;
4. Château de Cyr is an undeclared partnership that was registered on February 22, 2012, and operates in the field of beekeeping, with the lone partners being Steve Martineau and Marie-Ève Cyr, the whole as appears from the Information Sheet of the *Registraire des entreprises*, a copy of which is produced herewith as **Exhibit P-54**.
5. Château de Cyr specializes in the breeding of reproductive Queen Bees, that are sold to honey producers. Honey producers represent between 90 and 100% of Château de Cyr's customers.
6. In addition to the production and sale of Queen Bees, Château de Cyr produces and sells other products and by-products from the Beehive, including queen cells, nuclei/nucs (start-up Beehives), honey, pollen, beeswax and mead.
7. There are very few Queen Bee breeding companies in Québec; there are approximately five companies including the Plaintiff.
8. In the past several years the Plaintiff has experienced a massive decrease of its Bee population; in other words an abnormal and recurrent mortality rate, year after year, of its Bee Colonies.
9. Further, in the early June sowing period, which is the seeding of the corn fields, the Plaintiff observed that its Foraging (worker) Bees, responsible for supplying the Colonies, were dying by the thousands.
10. Foraging Bees are those that fly out of the Beehive in search of nectar, pollen and water that are indispensable to the survival of the Colony. The «nurse worker» Bees must consume honey and pollen to be able to produce royal jelly, the exclusive food of the Queen Bee.

11. The royal jelly nourishes the Queen Bee of the Colony during her entire life starting from the day she leaves the queen cell, and the larvae during the first stages of their development. The Queen Bee may lay between 1,200 to 2,500 eggs per day.
12. The Plaintiff also observed during this period that at the Beehive entrance or near ditches there were hundreds of dead Bees, along with other Bees that were weakened or completely disoriented.
13. Due to various abnormal behaviors observed by the Plaintiff among its Bees, especially the interruption of egg-laying by the Queen Bees, the unusual mortality or atrophy of the Queen Bees and larvae and eggs dehydration, there was not any royal jelly in the Beehives.
14. Noticing that its Bee population was diminishing quickly, the Plaintiff had to undertake the «requeening» of its affected Colonies, which consisted of the replacement of the dead or weakened Queen Bees by queen cells that contain future Queen Bees, so as to avoid the complete loss of its Colonies causing thereby, additional costs for labour and medication.
15. In addition, many of the Plaintiff's customers who also had similar problems looked to replenish their Queen Bees from the Plaintiff, but because of its own difficulties, the Plaintiff could not fulfill these demands.
16. The Plaintiff had samples of water and dead Bees analyzed and found that they contained "neonicotinoid", a systemic Insecticide, the whole as appears from the analysis report of the Ministry of Agriculture, Fisheries and Food of Québec, a copy of which is produced herewith as **Exhibit P- 55**, from the interpretation of the results of the Ministry of Agriculture, Fisheries and Food of Québec, a copy of which is produced herewith as **Exhibit P-56** and from the various reports of the Ministry of Agriculture, Fisheries and Food of Québec, copies of which are produced *en liasse* herewith as **Exhibit P-57**.
17. The drastic drop in the Bee population of the Plaintiff greatly affected production and the Plaintiff suffered important financial losses totaling more than \$20,000 per year, during some or all of the Class Period.

THE DEFENDANTS

Bayer

18. Bayer CropScience AG is a crop science company that was founded in 2002 as a result of a corporate reorganization of Bayer AG. Bayer CropScience

AG is headquartered in Monheim, Germany and is a subsidiary of Bayer AG. Bayer CropScience AG researched, developed and designed the Neonicotinoids that were, and are, manufactured, distributed, marketed and sold by Bayer Inc. and Bayer CropScience Inc. in Quebec by agreement with and for the benefit of Bayer CropScience AG.

19. Bayer Inc. is the Canadian subsidiary of Bayer AG and is responsible for Bayer AG's Canadian operations. Bayer Inc. is incorporated pursuant to the *CBCA* and is headquartered in Etobicoke, Ontario.
20. Bayer Inc. has a principal establishment in Montréal, Québec.
21. 3523501 Codena Inc. was incorporated in January 2001 pursuant to the *CBCA* and was headquartered in St-Charles-Sur-Richelieu, Québec.
22. 4118235 Bayer CropScience Inc. was incorporated in October 2002 pursuant to the *CBCA* and was headquartered in Calgary, Alberta.
23. On January 1, 2013, 4118235 Bayer CropScience Inc. and 3523501 Codena Inc. amalgamated to form Bayer CropScience Inc. Bayer CropScience Inc. is a fully consolidated and wholly owned subsidiary of Bayer AG. It is incorporated pursuant to the *CBCA* and is headquartered in Calgary, Alberta.
24. During the Class Period, Bayer AG reported financial results on a consolidated basis for itself and all of its subsidiaries. Its financial statements therefore incorporate the financial results accrued by Bayer CropScience AG, Bayer Inc. and Bayer CropScience Inc. During the Class Period, its consolidated annual sales and net income were as follows:

Bayer AG		
	Sales (€ millions)	Net Income (€ millions)
2006	28,956	1,683
2007	32,385	4,711
2008	32,918	1,719
2009	31,168	1,359

Bayer AG		
	Sales (€ millions)	Net Income (€ millions)
2010	35,088	1,301
2011	36,528	2,470
2012	39,760	2,446
2013	40,157	3,189
<u>2014</u>	<u>42,239</u>	<u>3,426</u>
<u>2015</u>	<u>46,324</u>	<u>4,110</u>
<u>2016</u>	<u>46,769</u>	<u>4,531</u>

25. The business of each of Bayer CropScience AG, Bayer CropScience Inc. and Bayer Inc. is inextricably interwoven with that of the other and each is the agent of the other for the purposes of the research, design, development, manufacture, marketing, distribution and/or sale of Neonicotinoids in Québec.

Syngenta

26. Syngenta International AG is a global agribusiness, agrochemical and biotechnology stock corporation. It is headquartered in Switzerland and has numerous research and development facilities and production sites worldwide.
27. Syngenta International AG researched, developed and designed Neonicotinoids that were, and are, manufactured, distributed, marketed and sold by Syngenta Canada Inc. in Ontario by agreement with, and for the benefit of, Syngenta International AG.
28. 531201 Syngenta Seeds Canada, Inc. was incorporated in March 2001 pursuant to the *CBCA* and was headquartered in Arva, Ontario.
29. 3850617 Syngenta Crop Protection Canada, Inc. was incorporated in January 2001 pursuant to the *CBCA* and was headquartered in Guelph, Ontario.

30. On January 1, 2012, 531201 Syngenta Seeds Canada, Inc. and 3850617 Syngenta Crop Protection Canada, Inc. amalgamated to form Syngenta Canada Inc. Syngenta Canada Inc. is an indirect wholly owned subsidiary of Syngenta International AG. It is incorporated pursuant to the *CBCA* and is headquartered in Guelph, Ontario. Syngenta Canada Inc. has a presence in Saint-Pie, Québec.
31. Syngenta International AG reported financial results on a consolidated basis for itself and all of its subsidiaries, including Syngenta Canada. During the Class Period, Syngenta's reported annual sales and net income were as follows:

Syngenta International AG		
	Sales (US\$ millions)	Net Income* (US\$ millions)
2006	8,046	637 (stated as 667 in the 2010 Annual Report)
2007	9,240	1,111 (stated as 1,135 in the 2011 and 2010 Annual Reports; stated as 1,114 in the 2008 Annual Report)
2008	11,624	1,385 (stated as 1,399 in the 2012, 2011 and 2010 Annual Reports)
2009	10,992	1,374 (stated as 1,397 in the 2013 Annual Report; stated as 1,411 in the 2012, 2011 and 2010 Annual Reports)
2010	11,641	1,402 (stated as 1,378 in the 2013 Annual Report)
2011	13,268	1,600 (stated as 1,570 in the 2013 Annual Report)
2012	14,202	1,875 (stated as 1,850 in the 2013 Annual Report)
2013	14,668	1,649
<u>2014</u>	<u>15,134</u>	<u>1,622</u>
<u>2015</u>	<u>13,411</u>	<u>1,344</u>

Syngenta International AG		
	Sales (US\$ millions)	Net Income* (US\$ millions)
<u>2016</u>	<u>12,790</u>	<u>1,181</u>

* Syngenta's 2006, 2007 and 2008 Annual Reports appear to term "net income" as "profit for the period".

32. The business of each of Syngenta International AG and Syngenta Canada Inc. is inextricably interwoven with that of the other and each is the agent of the other for the purposes of the research, design, development, manufacture, marketing, distribution and/or sale of Neonicotinoids in Québec.

OVERVIEW

33. Clothianidin, thiamethoxam, and imidacloprid are three widely-used Insecticides in a class of Insecticides termed "neonicotinoids", which is a class of neuro-active Insecticides chemically similar to nicotine, the whole as appears from a poster of the Task Force on Systemic Pesticides entitled: "*Systemic Pesticides (Neonicotinoids and Fipronil) Too Much Risk for Biodiversity and Natural Ecosystems, Task Force on Systemic Pesticides*" dated September 2012, a copy of which is produced herewith as **Exhibit P-1**. Neonicotinoids have been shown to adversely impact the survival, growth and health of Bees, which are vital to Québec's agriculture.
34. The lethal and chronic sublethal effects of the use of Neonicotinoids are felt by Québec's beekeepers annually, and include: Bee deaths; impaired reproduction; immune suppression; behavioral abnormalities resulting in Beehive loss; reduced honey production; impacts on the quality of honey; contamination of Beehives; loss of Queen Bees and breeding stock; and difficulties fulfilling honey product or pollination contracts, the whole as appears from the report of the Xerces Society for Invertebrate Conservation entitled: "*How Neonicotinoids Can Kill Bees – The Science Behind the Role These Insecticides Play in Harming Bees*" dated November 2016, a copy of which is produced herewith as **Exhibit P-2**.
35. Foraging Bees are exposed to the active ingredients in Neonicotinoids in addition to Neonicotinoid degradation products. The degradation components of Neonicotinoids are equally or more toxic to Bees than certain of the original Neonicotinoids themselves, the whole as appears from an article from the journal, Environmental Pollution, entitled: "*Widespread occurrence of neonicotinoid insecticides in streams in a high corn and*

soybean producing region, USA" dated October 2014, a copy of which is produced herewith as **Exhibit P-3**. For instance, thiamethoxam is known to degrade to clothianidin, which is a more toxic Neonicotinoid to Bees than thiamethoxam. The stored pollen or nectar brought to the Beehive containing a single Neonicotinoid active ingredient may later contain a mixture of both the active ingredient and the degradation products that form over time. This mixture poses a significant risk of Colony impairment for Beehives using stored food sources during the fall and winter months, the whole as appears from an article from the American Bee Journal entitled: "*The Curious Beekeeper*", dated June 2014, a copy of which is produced herewith as **Exhibit P-4**.

36. The Beehives and Colonies are also exposed to Neonicotinoids when the Foraging Bees return to the Beehives pollen and nectar containing Neonicotinoids.
37. The harm to the Class commenced in the spring of 2006, the first spring following the widespread use of Neonicotinoids in Canada, which was marked by an abnormally high national overwintering mortality average of 29% (compared with a historical average of 15%). This loss is ongoing due to the Defendants' continued production, marketing and sale of Neonicotinoids. Beekeepers have suffered, and will continue to suffer, devastating economic hardships as a result of the historical and continued wide-spread use of Neonicotinoids, the whole as appears from an article from BC Farms and Food entitled: "*Where Have All the Bees Gone?*" dated July 16, 2013, a copy of which is produced herewith as **Exhibit P-5**; and from the backgrounder of the Canadian Association of Physicians for the Environment entitled: "*Neonics, Honey Bees and Food Security*" dated May 2016, a copy of which is produced herewith as **Exhibit P-6**; and from the 2014/2015 Annual Report of the Environmental Commissioner of Ontario dated November 2015, a copy of which is produced herewith as **Exhibit P- 7**; and from the 2014/2015 Annual Supplement to the 2014/2015 Annual Report of the Environmental Commissioner of Ontario, a copy of which is produced herewith as **Exhibit P-8**; and from the 2013/2014 Annual Report of the Environmental Commissioner of Ontario dated October 2014, a copy of which is produced herewith as **Exhibit P-9**.

LIFE OF A BEE

38. Bees are social insects with a unique ecosystem that live in Beehives. [...]

39. A typical Bee Colony consists of 50,000 to 60,000 worker (female) Bees, 600 to 1,000 drone (male) Bees, and one Queen Bee.
40. There are four distinct Bee life cycle stages: egg stage; larva stage; pupa stage; and adult stage. In the first three stages, the Bees are developing. The development time from egg to adult varies among Queen Bees, worker Bees and drone Bees. The development time is approximately 16 days for Queen Bees, 21 days for worker Bees, and 24 days for drone Bees.
41. The first stage of the Bee life cycle is the egg stage. The eggs are small and look like poppy seeds. The hatching of the eggs normally occurs three days after they are laid by the Queen Bee.
42. The second stage is the larva stage. During this stage the larva are hatched. The larva are fed on a diet known as royal jelly for the first two days. On the third day those larva destined to develop into Queen Bees continue to feed on royal jelly, while worker larvae begin to feed on honey, water and pollens. The larva stage lasts approximately five and a half days for a Queen Bee, six days for worker Bees and seven days for drone Bees.
43. The third stage is the pupa stage, which involves the reorganization of tissues and where the worm like body of the larva develops three distinct parts. This stage usually lasts seven and a half days for a Queen Bee, twelve days for a worker Bee and fourteen and a half days for a drone Bee.
44. The fourth stage is the adult stage. When Bees enter the adult stage, they are fully grown and ready to accomplish their tasks.

Food Collection Process

45. The Bees start making honey, which is their food, by visiting flowers and plants. The Foraging worker Bees collect a sugary juice called nectar from the blossom by sucking it out with their tongues. The worker Bees generally travel within an approximate radius of four (but can travel up to seven) miles of the Beehive to collect nectar. The worker Bees then store this juice in their honey stomach, which is different from their food stomach. The drone Bees do not Forage for the Beehive nor does the Queen Bee.
46. The worker Bees have glands that secrete an enzyme which is mixed with the nectar and these enzymes breakdown the complex sugars of the nectar into simpler sugars that are less prone to crystallization. This process is referred to as inversion.

47. When the worker Bee has a full stomach it returns back to the Beehive and regurgitates the already modified nectar for a drone Bee. The nectar once in the Beehive is passed mouth-to-mouth by the drone Bees until the moisture content is reduced from 70% to 20%. The drone Bee ingests the modified nectar and further breaks down the sugars and then regurgitates it into a cell of the honeycomb. The drone Bees beat their wings, fanning the nectar to evaporate the remaining water content and once the sugars evaporate they thicken into honey. Once the honey is finished, the drone Bee caps the beeswax cell, sealing the honey into the honeycomb for consumption at a later date. A single worker Bee produces only one-twelfth of a teaspoon of honey in its lifetime.
48. The primary purpose of the Queen Bee is to lay eggs. During the months of April and May, the Queen Bee lays eggs continuously.
49. Bees spend most of their lives collecting pollen, a source of protein they feed to their developing offspring. When a Bee lands on a flower, the hairs all over the Bee's body attract pollen grains through the electrostatic forces. Stiff hairs on the Bee's legs enable them to groom the pollen into specialized brushes or pockets on their legs and/or body and carry it back to its Beehive. Bees generally focus on one kind of flower at time and, because of this, pollen is transferred from one flower to another flower of the same species by a particular Bee. The majority of plants require this type of pollen distribution, known as cross pollination, in order to produce viable seeds. In order to attract Bees and provide them with food and energy the flowers produce nectar which is a mixture of water and sugars which then is made into honey by the Bees.
50. These traits of Bees—in particular their social qualities, along with their means of Foraging and manufacturing food—are characteristics that:
 - a) render it a certainty that Bees come into contact with Neonicotinoids when used as marketed and directed by the Defendants;
 - b) do not materially change depending on whether a particular Bee Colony is wild or domestic; and
51. at all material times, were known or ought to have been known by the Defendants.

THE NEONICOTINOIDS

52. The Plaintiff and Class Members have suffered, and continue to suffer harm caused by Neonicotinoids designed, manufactured, marketed, distributed and sold by the Defendants in Québec. The three types of Neonicotinoids (imidacloprid, clothianidin and thiamethoxam) are used interchangeably; their impact on Bees is the same.

Imidacloprid

53. Imidacloprid is a Neonicotinoid produced by the Bayer Defendants. It is present in a range of crop protection products used throughout Québec, the whole as appears from an article from Radio Canada International entitled: "Plans to phase-out a pesticide harmful to ecosystems", dated November 24, 2016, a copy of which is produced herewith as **Exhibit P- 10.**
54. Imidacloprid was first registered by the PMRA in 1995 for control of the Colorado potato beetle. It has since been approved for use on an extensive range of field crops, root and tuber vegetables, tree fruits and legumes such as corn, cauliflower, artichokes and strawberries, among others, the whole as appears from the Regulatory Note REG2001-11, dated September 7, 2001, a copy of which is produced herewith as **Exhibit P-11.**
55. Imidacloprid persists in soils and has a half-life of approximately 1,000 days (just under three years) depending on soil type and environmental conditions. In water, imidacloprid can have a half-life of more than a year depending on environmental conditions.
56. Imidacloprid is a systemic Insecticide and is highly mobile in plants. When used as a seed dressing, imidacloprid migrates from stem to leaf tips and, eventually, into flowers. This type of migration and uptake results in imidacloprid residues in the pollen and nectar of numerous flowering crop plants, the whole as appears from the report from Buglife – The Invertebrate Conservation Trust entitled: "*The impact of neonicotinoid insecticides on bumblebees, honey bees and other non-target invertebrates*", dated September 2009, a copy of which is produced herewith as **Exhibit P-12.**

Clothianidin

57. Clothianidin is a Neonicotinoid that is produced by the Bayer Defendants and the Syngenta Defendants. It is present in a range of crop protection products used throughout Québec. Clothianidin is a successor product to imidacloprid.
58. Clothianidin was first conditionally registered by the PMRA in 2003 and is commercially used as a seed treatment on numerous crops including but not limited to corn, canola, rice, and turf, on row crops such as grapes and strawberries as well on some tree crops, the whole as appears from the PMRA Joint Review Update JR2004-01, dated January 1, 2004, a copy of which is produced herewith as **Exhibit P-13**. It is also used on barley (winter, seed), durum wheat (seed), oats (winter, seed), rye (seed), triticale (seed), wheat (winter, seed), forage maize, grain maize, sweetcorn, fodder beet (seed), and sugar beet (seed), among other crops.
59. Clothianidin persists in soils and has a half-life ranging from 148 to 1,155 days (approximately five months to over three years) depending on soil type and environmental conditions. In water, clothianidin can have a half-life of 33 days depending on environmental conditions, the whole as appears from the EPA Pesticide Fact Sheet, dated May 30, 2003, a copy of which is produced herewith as **Exhibit P-14**.
60. Clothianidin is a systemic Insecticide and is highly mobile in plants. When used as a seed dressing, clothianidin migrates from stem to leaf tips and, eventually, into male flowers. This migration and uptake leads to clothianidin presence in the pollen and nectar of numerous flowering crop plants.

Thiamethoxam

61. Thiamethoxam is a Neonicotinoid manufactured by the Syngenta Defendants. It is present in a range of crop protection products used throughout Québec. [...]
62. Thiamethoxam was first registered by the PMRA in 2000 and is used to protect field crops, vegetable crops, stone fruit, turf and ornamentals, as well as for other agricultural purposes. It is also approved for use on potato, potato (seed crop), house plants, house plants (container-grown), ornamental garden plants (indoor container-grown), apple, pear, fodder beet (seed) and sugar beet (seed).

63. Thiamethoxam is found to have a half-life of 229 days depending on soil type and environmental conditions. It has been found that in water thiamethoxam can have a half-life of 6,080 days (approximately sixteen and a half years) depending on environmental conditions. In soil, thiamethoxam is also known to degrade into metabolite, clothianidin, the whole as appears from the entry for thiamethoxam in the Pesticide Action Network Pesticides Database, a copy of which is produced herewith as **Exhibit P-15**.
64. Thiamethoxam is a systemic Insecticide and is highly mobile in plants. When used as a seed dressing, thiamethoxam migrates from stem to leaf tips and, eventually, into male flowers. This migration and uptake leads to thiamethoxam presence in the pollen and nectar of numerous flowering plants.

THE APPLICATION OF NEONICOTINOIDS

65. Neonicotinoids are applied in four ways: as foliar (leaf) sprays, as soil drenches, by injection into trees and as seed treatments. All four manners of application are systemic and cannot be washed off a product once they have migrated into the plant, the whole as appears from an article from the Farms at Work entitled: "*10 facts about neonicotinoids in Ontario*", dated August 2013, a copy of which is produced herewith as **Exhibit P-16**.
66. While Neonicotinoids can be applied in multiple ways, the most prevalent application of Neonicotinoids is as a seed coating material for agricultural commodity crops like corn and soybeans, among other crops, the whole as appears from a report from the Institute for Agriculture and Trade Policy entitled: "*Unknown benefits, Hidden costs*", dated August 2015, a copy of which is produced herewith as **Exhibit P-17**.
67. The concentrated market power in the seed industry has significantly limited farmers' choice with regard to seed coatings, meaning that farmers are effectively forced to plant a Neonicotinoid-treated seed whether the individual farmer wants to or not.

NEONICOTINOIDS CONTRARY TO THE PRINCIPLES OF SUSTAINABLE PEST MANAGEMENT

68. Health Canada describes sustainable pest management (also termed integrated pest management and widely known as IPM) as combining "a range of pest management practices, including the judicious use of insecticides, to ensure that our natural resources are utilized efficiently and

conserved for future generations” to “meet society’s current and future needs for the protection of human health and the environment for the production of food, feed and fibre, and for the use of natural resources”, the whole as appears from an excerpt of the Health Canada website, dated February 17, 2015, a copy of which is produced herewith as **Exhibit P-18**.

69. The key principle of sustainable pest management or IPM is to only use and apply chemicals based on actual need, reducing Insecticide reliance. The goal of sustainable pest management is to minimize the adverse effects of Insecticides while maintaining economic returns.
70. Sustainable pest management or IPM recognizes that it is neither necessary nor cost-effective to attempt to eliminate an entire population of pests. Instead, researchers and pest management specialists develop thresholds to determine when control measures should be implemented to bring pest populations down to less harmful levels. The conditions affecting pests are continually changing and as a result the thresholds get re-evaluated on an on-going basis.
71. The prophylactic use of Neonicotinoids conflicts with the principle and goals of sustainable, integrated, pest management and sustainable development as described in the preambles to the *Federal Pest Control Products Act*, SC 2002, c 28 and the *Canadian Environmental Protection Act*, 1999, SC 1999, c 33, and the various provincial environmental protection statutes respectively.
72. The use of Neonicotinoids also conflicts with the precautionary principle, a principle of international law and policy. The precautionary principle is appropriately used to assist in interpreting Canadian and Provincial environmental statutes. The term “precautionary principle” at its core, calls for preventative, anticipatory measures to be taken when an activity raises threats of harm to the environment, wildlife or human health even if a cause-and-effect relationship has not been fully established.

IMPACT OF NEONICOTINOIDS ON BEES

73. Neonicotinoids are a class of neuro-active, nicotine-based Insecticides developed in 1991 and brought into commercial use in mid-1990s. They have been used very widely throughout Québec since 2005, the whole as appears from an article from the Task Force on Systemic Pesticides, a copy of which is produced herewith as **Exhibit P-19**.

74. Unlike other Insecticides that remain on the surface of the treated foliage, systemic Insecticides, such as Neonicotinoids, are taken up by the plant and transported to all of its tissues including its leaves, flowers, roots and stems, as well as its pollen and nectar.
75. Neonicotinoids interfere with the nicotinic receptor in the central nervous system of Bees, which causes tremors, paralysis and death, at extremely low doses, the whole as appears from an article from the journal, Scientific Reports, entitled: "*Sublethal effects of dietary neonicotinoid insecticide exposure on Honey Bee queen fecundity and colony development*", dated August 26, 2016 a copy of which is produced herewith as **Exhibit P-20**.
76. Neonicotinoids are considered systemic chemicals that work their way from the seed treatment, foliar spray, soil drenches, or injections through the plant and attack the nervous system of any insect that feeds on the plant, resulting in immediate and/or long term damage to beneficial insects such as Bees, the whole as appears from a report from the European Parliament "*Existing Scientific Evidence of the Effects of Neonicotinoid Pesticides on Bees*", dated December 2012, a copy of which is produced herewith as **Exhibit P-21**.
77. When Bees Forage on pollen or nectar from treated crops, consume guttation droplets or are otherwise exposed to small levels of Neonicotinoids, paralysis and death can result along with a bioaccumulation of Neonicotinoids in the Beehive.
78. Neonicotinoids have two impacts on Bees: (i) an immediate lethal impact; and (ii) a chronic, sublethal impact.
79. In terms of the lethal impacts, Neonicotinoids are found in the talc exhausted from plantings of treated seeds. Talc is highly mobile and can contaminate flowers within or near fields planted with Neonicotinoid-treated seeds. Lethal exposure can also result when Bees come into contact with aerial Insecticidal powders and abraded seed coatings released during seed drilling.
80. In terms of the chronic, sublethal impacts, Neonicotinoids remain active in the plant for many months, or years. Neonicotinoids remain toxic even at very low doses and have a higher persistence in soil and water than other conventional Insecticides, remaining *in situ* for months on average, increasing the risk of cumulative toxic loading effects, especially with

repeated applications. This chronic persistence results in the sustained exposure of non-target organisms, such as Bees.

81. Over the past decade, use of Neonicotinoids has resulted in mass die-offs in the Bee population, Bee reproductive failures, difficulties rearing Queen Bees, and a decrease in the quality and quantity of honey produced and other by-products from the Beehive, such as queen cells, nuclei/nucs, pollen, beeswax and mead, the whole as appears from an article from Scientific Reports entitled: "*Neonicotinoid pesticides severely affect honey bee queens*", dated October 13, 2015, a copy of which is produced herewith as **Exhibit P-22**.
82. Bees are social insects that rely heavily on memory, cognition and communication to coordinate the activities that are essential for their survival. Lethal and sublethal ingestion of Neonicotinoids damages Foraging behaviour, overall mobility and ability to communicate, the whole as appears from a report from the Center for Food Safety entitled: "*Pollinators and Pesticides*", dated September 2013, a copy of which is produced herewith as **Exhibit P-23**. Neonicotinoids also have numerous other effects on Bees, such as causing a premature shift in Beehive roles and impairing medium-term olfactory memory and associative learning abilities that foraging Bees rely on to find their way back to the Beehive, the whole as appears from an article from the journal, Functional Ecology, entitled: "*Chronic impairment of Bumblebee natural foraging behaviour induced by sublethal pesticide exposure*", dated July 7, 2014, a copy of which is produced herewith as **Exhibit P-24**. Neonicotinoids also impact Bees' associated learning ability and their olfactory member can be taught to remember smells resulting in them returning to the Neonicotinoids.
83. Neonicotinoids are among the most widely used Insecticides in Canada (including Québec) and pose serious risks to the Bee population primarily because of their persistence in crops, soil and groundwater and their potency at low concentrations. These properties, coupled with the widespread use of Neonicotinoids in many cropping systems and their presence in pollen and nectar, result in lethal and sublethal exposure to the Bee population.
84. The connection between the sale and use of Neonicotinoids as described herein, and the impact of those substances on Bees as pleaded herein was concealed and/or denied by the Defendants. When the damage was first suffered in Canada in 2006, they were initially attributed to a pesticide-resistant parasitic mite, *Varroa destructor*, and/or unusual weather conditions. Only since the fall of 2012, has information come to light to the

beekeepers attributing the adverse effects pleaded herein to Neonicotinoids, the whole as appears from Health Canada's PMRA Annual Report 2012-2013, a copy of which is produced herewith as **Exhibit P-25**, and from Health Canada's Update on Canadian Bee Incident Reports, 2012-2016, a copy of which is produced herewith as **Exhibit P-58**.

85. This connection was confirmed by two recent field studies, which are described in an article from the journal, Science, entitled: "A cocktail of toxins: The effects of sustained neonicotinoid exposure on bees depend on location, but are usually negative," dated June 30, 2017, a copy of which is produced herewith as **Exhibit P-59**.
86. One was a study of the effects of neonicotinoid-treated crops on three bee species (including Bees) across Hungary, Germany and the United Kingdom. The researchers found that neonicotinoids caused a reduced capacity for bee species to establish new populations in the year following neonicotinoid exposure, the whole as appears in an article from the journal, Science, entitled: "Country-specific effects of neonicotinoid pesticides on honey bees and wild bees," dated June 30, 2017, a copy of which is produced herewith as **Exhibit P-60**.
87. The second study was a study of how field-realistic exposure to Neonicotinoids can reduce Bee health in corn-growing regions of Canada. The researchers found that Neonicotinoids increased worker mortality and were associated with declines in social immunity and increased queenlessness over time, the whole as appears in an article from the journal, Science, entitled: "Chronic exposure to neonicotinoids reduces honey bee health near corn crops", dated June 30, 2017, a copy of which is produced herewith as **Exhibit P-61**.
88. A third field study conducted in the United States indicated that over 94% of honey bee foragers throughout the state of Indiana are at risk of exposure to varying levels of neonicotinoid insecticides, including lethal levels, during sowing of maize despite no documented benefit of the insecticidal seed treatments for crop yield, the whole as appears in an article from the Journal of Applied Ecology, entitled: "Planting of neonicotinoid-treated maize poses risks for honey bees and other non-target organisms over a wide area without consistent crop yield benefit," dated 2017, a copy of which is produced herewith as **Exhibit P-62**.

PMRA'S CONDITIONAL REGISTRATIONS OF NEONICOTINOIDS

89. The PMRA regulates pest control products to safeguard human health and the environment and to ensure that the risks associated with such products are acceptable.
90. The PMRA has issued conditional approvals for the following products containing Neonicotinoids produced by the Bayer Defendants including but not limited to: Poncho 600 FS; Confidor 200 SL; Prosper EverGol; Poncho 600 Seed Treatment Insecticide; Poncho FS Seed Treatment Insecticide; Prosper FX Flowable Insecticide and Fungicide Seed Treatment; Prosper T200 Flowable Insecticide and Fungicide Seed Treatment; and Titan ST Insecticide, the whole as appears from Health Canada's Conditional Registrations, a copy of which is produced herewith as **Exhibit P-26**.
91. The PMRA has issued conditional approvals for the following products containing Neonicotinoids produced by the Syngenta Defendants including but not limited to: Actara 25 WG Insecticide; Actara 240SC Insecticide; Cruiser 5SF Seed Treatment; Cruiser 250FS Seed Treatment; Cruiser Maxx Beans; Helix Colourless Seed Treatment; Helix Liquid Seed Treatment; Cruiser Maxx Cereals Seed Treatment; Cruiser Maxx Cereals Commercial Seed Treatment; Endigo Insecticide; Flagship Insecticide; Helix Liquid Seed Treatment; and Helix Xtra Seed Treatment.
92. Since 2003, the registrations of Neonicotinoids have been conditional on the Defendants' providing the PMRA with further information and studies on the environmental risks of Neonicotinoids, including field studies on Bee toxicity.
93. PMRA's conditional registrations and their renewal are meant to be time limited exceptions to the normal requirement that before a pest control product may be sold or used in Canada it must possess a full registration based on meeting all statutory information requirements. The conditional registration itself acknowledges that "*clothianidin is highly toxic to bees ...*", the whole as appears from Health Canada's Registration Decision RD2013-14, dated July 23, 2013, a copy of which is produced herewith as **Exhibit P-27**.
94. The PMRA has initiated a re-evaluation of Neonicotinoids that will focus on potential effects on pollinators and will include consideration of all new scientific measures. This re-evaluation is not expected to be completed before 2017 or 2018, the whole as appears from Health Canada's Re-evaluation Note REV2016-04 – Joint PMRA/USEPA Re-evaluation Update for

the Pollinator Risk Assessment of the Neonicotinoid Insecticides, dated January 6, 2016, a copy of which is produced herewith as **Exhibit P-28**. PMRA intends to complete its pollinator risk assessments for Neonicotinoids and publish these for consultation by December 2017.

95. The Defendants have still not provided the PMRA with information that satisfies the conditions for registration of Neonicotinoids, and particularly, chronic toxicity hive studies for Bees.

FAULT

96. The Defendants committed a fault in their research, design, development, manufacture, marketing, distribution and sale of Neonicotinoids.
97. The Defendants committed a fault in failing and continuing to fail to warn the Plaintiff and Class Members about the risks to Bees associated with exposure to Neonicotinoids.
98. The Defendants committed a fault in making misstatements with respect to the risks to Bees associated with exposure to Neonicotinoids.
99. The fault of the Defendants has caused damage to the Plaintiff and Class Members.
100. There is a close and direct relationship of proximity between the Defendants and the Plaintiff and Class Members. The Defendants' conduct directly caused physical damage to the property of the Plaintiff and Class Members. The Defendants' conduct also caused the Plaintiff and Class Members to suffer economic losses related to the damage to their property.
101. Neonicotinoids are potentially dangerous products. It was reasonably foreseeable to the Defendants that the Plaintiff and Class Members could be affected by the risks of danger associated with Neonicotinoids.
102. The Defendants had an obligation to be mindful of the interests of the Plaintiffs and Class Members in going about their business.
103. The Defendants and the Plaintiffs and Class Members are part of an integrated industry, and are further linked through the PMRA's pest control product registration regime.
104. The Defendants knew or ought to have known that: (i) Bees must collect pollen and are often used to pollinate crops, and for that purpose, Bees and

beekeeping businesses are often located proximate to agricultural operations; (ii) the Defendants' dominance and control of the market means that farmers often have had, and continue to have, no choice but to purchase and plant Neonicotinoid-treated seed; (iii) Neonicotinoid-treated seed poses harm to Bees.

105. Given this relationship of proximity, it was or ought to have been reasonably foreseeable to the Defendants that their negligence could result in the damages that have been suffered by the Plaintiffs and other Class Members.
106. The risks to Class Members ought to have been known by the Defendants before they began marketing Neonicotinoids in Canada.
107. In 1999, imidacloprid was banned in France after French beekeepers reported substantial losses attributed to the neonicotinoid. This ban was upheld in 2003 when French scientists confirmed that the bee losses were caused by the neonicotinoid, the whole as appears from a report from the European Environment Agency, entitled: "*Late lessons from early warnings II: Chapter 16 - Seed-dressing systemic insecticides and honeybees*", dated January 22, 2013, a copy of which is produced herewith as **Exhibit P-29**.
108. As of 2003, the PMRA made the Defendants' registrations of clothianidin and thiamethoxam conditional on the results of chronic toxicity studies on Bees.
109. Therefore, the Defendants knew or ought to have known as early as, if not earlier, than 1999 and as late as 2003 that Neonicotinoids are harmful to Bees, and that when Neonicotinoids are used as designed and directed by the Defendants, Bees will regularly and unavoidably ingest Neonicotinoids in the course of their natural Foraging activities and/or bring Neonicotinoids back to the Beehives, contaminating the food supplies of the Beehives generally.
110. Further, as developers and manufacturers of Neonicotinoids, the Defendants were in the best position to obtain the necessary information about the risks of Neonicotinoids and had the expertise to properly assess the possible harms of Neonicotinoids to the Plaintiffs and Class Members.
111. The Plaintiff and Class Members further plead that the harm was reasonably foreseeable to the Defendants as a result of the following facts, all of which were known or ought to have been known to the Defendants:

Global Response to Neonicotinoids

- a) The international regulatory community has repeatedly expressed concern about the continued use of neonicotinoids and their impact on the Bee population.
- b) In 2009, a group of European scientists from several disciplines convened as a result of the growing scientific concern over the rapid decline in arthropod populations across Europe. Reviewing existing studies, field observations and circumstantial evidence, this group concluded that a new generation of pesticides being the persistent, systemic and neurotoxic neonicotinoids, introduced in the mid-1990s, may be considered as one of the main causes of the escalation in the decline of the arthropod populations.¹ To investigate this theory, the Task Force on Systemic Pesticides ("Task Force") was established to engage in an analysis of all the available scientific studies of the effects of systemic pesticides on biodiversity and the ecosystem with a focus on pollinators and other non-target species, the whole as appears from a report from the Task Force on Systemic Pesticides entitled: "*Worldwide integrated assessment of the impacts of systemic pesticides on biodiversity and ecosystems*", dated August 23, 2014, a copy of which is produced herewith as **Exhibit P-30**.
- c) The Task Force reviewed all of the relevant information from studies all over the world, representing approximately 800 peer reviewed reports, relating to the use and impact of neonicotinoids. The key findings of the Task Force are set out in the Worldwide Integrated Assessment on Systemic Pesticides and include, among others:
 - neonicotinoids persist, particularly in soils, for months and in some cases years, and accumulate. This increases their toxicity by increasing the duration of exposure of non-target species;
 - the metabolites (degradates that are produced by metabolism of the active ingredient by animals, plants and microorganisms such as soil bacteria and fungi) of

¹ An arthropod is an invertebrate animal having an external skeleton, a segmented body and paired jointed appendages. The most familiar arthropods are butterflies, beetles, flies, ants, bees, spiders, scorpions, shrimp and crabs.

neonicotinoids are often as or more toxic than the active ingredients;

- the classic measurements used to assess the toxicity of a pesticide (short-term lab toxicity results) are not effective for systemic pesticides and conceal their true impact. They typically measure direct acute effects rather than chronic effects via multiple routes of exposure. In the case of acute effects alone, some neonicotinoids are at least 5,000 to 10,000 times more toxic to bees than DDT;
 - the evidence is clear that neonicotinoids pose a serious risk of harm to honey bees and other pollinators; and
 - the most affected group of species include insect pollinators such as bees and butterflies that are exposed to contamination through all four routes (air, plants, water and soil) with high exposure through air and plants and medium exposure through water. The assessment found that both individuals and populations can be adversely affected by low or acute exposure making them highly vulnerable. Pollinators exposed to contaminated pollen, nectar and water are harmed at field realistic concentrations.
- d) The Task Force concluded that the present scale use of neonicotinoids is not sustainable and that continued use can only accelerate the global decline of important invertebrates, and risk reductions in the level, diversity, security and stability of the ecosystem.
- e) In 2017, the Task Force updated its conclusions to account for the results of more than 1,100 peer-reviewed studies published since 2014. Studies on the lethal and sublethal effects of neonicotinoids confirmed the high toxicity of neonicotinoids to Bees and confirmed previous findings that chronic exposure to very low levels of neonicotinoids can cause a "delayed mortality" effect. The Task Force also reviewed new studies on the mode of action and metabolism of neonicotinoids and their resulting toxicity. These studies showed that, in Bees, effects related to neonicotinoids include expressional changes in genes related to the Bee immune

system, and neurological effects influencing spatial navigation and thermoregulation, the whole as appears from an update of The Task Force on Systemic Pesticides (2017), a copy of which is produced herewith as **Exhibit P-67**.

- f) The Permanent Peoples' Tribunal (the "Tribunal") is an international opinion tribunal that is independent of state authorities. Over the course of four days, from December 3 to 6, 2011, the Tribunal convened in India to hear cases that were brought against six multinational agrochemical companies, which included Syngenta International AG and Bayer AG. One of the cases brought before the Tribunal from the United Kingdom and Europe focused on the widespread death of Bees in Europe and North America linked to the Bayer Defendants' Neonicotinoid Insecticides, the whole as appears from a report from the Permanent Peoples' Tribunal – Session on agrochemical transnational corporations, Bangalore, dated December 3-6, 2011, a copy of which is produced herewith as **Exhibit P-31**.
- g) On December 6, 2011, the Tribunal reached its verdict and found that the "testimonies of witnesses convincingly showed that ... the extinction of bees has already occurred to a large extent in many places of the world (in the USA, in Europe, in Argentina and elsewhere)...". The Tribunal declared that on all the evidence presented before it "the six [transnational corporations were] *prima facie* responsible for gross widespread and systemic violations of the right to health and life, economic, social and cultural rights...". The Tribunal further declared that "their systemic acts of corporate governance have caused avoidable catastrophic risks, increasing the prospects of extinction of biodiversity, including species whose continued existence is necessary for reproduction of human life".
- h) The European Food Safety Authority ("EFSA") issued reports in 2013 confirming that neonicotinoids present acute risks to Bee survival. A "high acute risk" to Bees was identified from exposure via dust drip for authorized uses in cereals, cotton, maize and oilseed rape. A "high acute risk" was also identified for exposure to the residues in nectar and/or pollen for authorized uses in cotton, oilseed rape and sunflowers. The EFSA also identified other risks and major data gaps in the

studies previously undertaken, the whole as appears from a report from the EFSA – Conclusion on the peer review of the pesticide risk assessment for Bees for the active substance thiamethoxam, dated March 14, 2013, a copy of which is produced herewith as **Exhibit P-32**.

- i) The European Commission, based on the findings of the EFSA, has restricted the sale and use of neonicotinoid insecticides, specifically products containing clothianidin, imidacloprid and thiamethoxam. This temporary ban on the use of neonicotinoids on some crops entered into force on December 1, 2013 and is currently under review. Recently, the European Commission is proposing a complete ban on neonicotinoids with the only exception being for plants entirely grown in greenhouses. The restriction applies to the use of neonicotinoids for seed treatment, soil application (granules) and foliar treatment on plants and cereals (with the exception of winter cereals) that are attractive to Bees, the whole as appears from a press release from the European Commission, dated May 24, 2013, a copy of which is produced herewith as **Exhibit P-33**.

Japan's Response to Neonicotinoids

- a) In 2013, Japan refused to accept containers of Canadian buckwheat that was grown in 2012 on the grounds that it exceeded Japan's maximum residue limit for thiamethoxam. The buckwheat farmers did not apply thiamethoxam to their crops and believe that the contamination may have resulted from residues subsisting in the soil from previously-treated crops, the whole as appears from an article from The Western Producer entitled: "*Neonicotinoids jeopardize Manitoba buckwheat exports*", dated January 31, 2014, a copy of which is produced herewith as **Exhibit P-34**.

France's Response to Neonicotinoids

- a) Since 1999, France has banned the use of the neonicotinoid, imidacloprid, sold under the name Gaucho in France, and used as a seed dressing for sunflowers, after one-third of French Bees died following its widespread use.
- b) In 2003, the Comité Scientifique et Technique, a team of expert scientists appointed by the French Minister of

Agriculture, concluded that imidacloprid poses a significant risk to Bees. In 2004, the Minister of Agriculture suspended the use of imidacloprid as a seed treatment for maize (corn), the whole as appears from an article from Chemical & Engineering News entitled: "*Why are the bees dying?*" dated June 18, 2007, a copy of which is produced herewith as **Exhibit P-35**.

- c) In 2008, Bayer's registration application for clothianidin was rejected by the French authorities.

Germany's Response to Neonicotinoids

- a) In 2008, the German Federal Office of Consumer Protection and Food Safety suspended the registrations of eight pesticide seed treatment products used on rapeseed oil and sweetcorn. The ban occurred following reports, in May 2008, from German beekeepers in the Baden-Württemberg region that two-thirds of their Bees died and that some beekeepers lost all of their Beehives as a result of the use of clothianidin. The tests conducted on the dead Bees showed that 99% of those examined had a buildup of clothianidin, the whole as appears from an article from the Guardian entitled: "*Pesticides: Germany bans chemicals linked to honeybee devastation*", dated May 23, 2008, a copy of which is produced herewith as **Exhibit P-36**.

Italy's Response to Neonicotinoids

- a) In 2008, Italy's agricultural ministry, relying on the precautionary principle, suspended the use of pesticides containing neonicotinoids for the coating of any plant seeds, the whole as appears from a factsheet of the Pesticide Action Network UK entitled: "*Different regulatory positions on neonicotinoids across Europe*", dated September 2012, a copy of which is produced herewith at **Exhibit 37**.

United States of America's Response to Neonicotinoids

- a) In 1995, beekeepers in North Dakota lost thousands of Bee Colonies during a period when oilseed rape in the area was treated with imidacloprid. The loss of Colonies represented approximately one-third of the Bees in the area.

- b) In February 2003, the US EPA issued a Risk Assessment for clothianidin seed treatment for corn and canola. At that time, US EPA scientists raised serious concerns about neonicotinoids and requested field testing to evaluate potential environmental hazards including harm to pollinators, the whole as appears from the Memorandum of the U.S. EPA – Environmental Fate and Effects Division, dated February 25, 2003, a copy of which is produced herewith as **Exhibit P-38**.
- c) The US EPA, in its "Pesticide Fact Sheet", issued May 30, 2003, granting the conditional registration of clothianidin, produced by Bayer Corporation, the US subsidiary to Bayer AG, stated that "[c]lothianidin has the potential for toxic chronic exposure to honey bees, as well as other non-target pollinators, through the translocation of clothianidin residues in nectar and pollen", the whole as appears from the Pesticide Fact Sheet of the U.S. EPA, dated May 30, 2003, a copy of which is produced herewith as **Exhibit P-39**.
- d) In a memorandum dated November 2, 2010, the US EPA stated that clothianidin's major risk concern is to non-target insects such as Bees and that "[a]cute toxicity studies to honey bees show that clothianidin is a neonicotinoid insecticide that is both persistent and systemic on an oral basis", the whole as appears from the Memorandum of the U.S. EPA – Environmental Fate and Effects Division, dated November 2, 2010, a copy of which is produced herewith as **Exhibit P-40**.
- e) In January 2012, the USDA Agricultural Research Station published a study finding that injury to Bees from neonicotinoids also makes them more vulnerable to highly-damaging parasites.
- f) The US EPA's "Clothianidin Summary Document Registration Review: Initial Docket December 2011", outlined the key findings of the most recent ecological risk assessment and states: "...in the 2010 assessment, information from standard tests, field studies, and incident reports suggest the potential for long-term toxic risks to honey bees...", the whole as appears from the U.S. EPA – Clothianidin Summary

Document, dated December 14, 2011, a copy of which is produced herewith as **Exhibit P-41**.

Canada's Response to Neonicotinoids

- a) In Canada, the federal government, through the PMRA, is responsible for the registration of pesticides.
- b) Since 2009, approximately 1,500 Pesticide Incident Reports, and hundreds of complaints, relating to Colony effects and Bee deaths in Ontario and Québec have been filed with the PMRA. Three of these reports were evaluated by Health Canada as follows:
 - "Pesticide Incident Report 2010-3100" concerned an abnormally high number of "dead or paralyzed/agonizing" Bees observed by a beekeeper in Coteau-du-Lac, Québec on May 15, 2010. Tests by the Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec ("MAPAQ") detected residues of clothianidin and thiamethoxam in the dead Bees, which Health Canada used to confirm that exposure to Neonicotinoids occurred. The incident was classified as "Environment Moderate". Health Canada concluded, the whole as appears from Health Canada's Evaluation of Pesticide Incident Report 2010-3100, dated December 30, 2010, a copy of which is produced herewith as **Exhibit P-42**:

...[I]t is **highly probable** that exposure to clothianidin and/or thiamethoxam *caused* the bee mortality in Coteau-du-Lac. Even though it is not clear how the bees were exposed to clothianidin and thiamethoxam in this incident, *this conclusion is supported by the fact that clothianidin and thiamethoxam are known to be highly toxic to bees* and these were the only pesticides found in the dead bees. In addition, no pesticide residues were found in

control bees which were collected from a healthy hive in another location.

[bolded emphasis in original;
italicized emphasis added]

- "Pesticide Incident Report 2010-3391" concerned an "abnormally high bee mortality" observed by a beekeeper in St-Dominique, Québec in May 2010. The Bees were sent for testing by the MAPAQ, and the incident was classified as "Environment Moderate". Health Canada concluded, the whole as appears from Health Canada's Evaluation of Pesticide Incident Report 2010-3391, dated December 31, 2010, a copy of which is produced herewith as **Exhibit P-43**:

...[I]t is **highly probable** that exposure to clothianidin *caused* the bee mortality in St-Dominique. Even though it is not clear how the bees were exposed to clothianidin in this incident, this conclusion is supported by the fact that *clothianidin is known to be highly toxic to bees* and was the only pesticide found in the dead bees.

[bolded emphasis in original;
italicized emphasis added]

- "Pesticide Incident Report 2011-4412" concerned Bee mortality observed by a beekeeper in the Montérégie region of Québec, which was first noticed on June 1st, 2011. The affected hives "were surrounded by agricultural fields in which corn and soybean are grown and the incident occurred during the sowing of corn and soybean seeds". Testing by the MAPAQ detected residues of clothianidin, thiamethoxam, fenitrothion, and atrazine in the dead Bees. Fenitrothion is no longer registered for use in Canada. The incident was classified as "Environment Major". Health Canada concluded:

...[I]t is **highly probable** that exposure to clothianidin and/or thiamethoxam and/or fenitrothion *caused* the bee mortality in this incident. Even though it is not clear how the bees were exposed to these compounds in this incident, this conclusion is supported by the fact that residues of clothianidin, thiamethoxam and fenitrothion were found in dead bees and that these compounds are known to be highly toxic to bees. *In addition, clothianidin and/or thiamethoxam were detected in other incidents where high bee mortality was observed.*

It is unlikely that atrazine contributed to the bee mortality observed in this incident, as this pesticide is not known to be hazardous to bees.

[bolded emphasis in original;
italicized emphasis added]

- In response to this incident concerning Bee mortality and clothianidin and thiamethoxam, Health Canada added that:

A trend analysis will therefore be initiated by the PMRA to further its understanding of the issue. In addition, as clothianidin and thiamethoxam are conditionally registered, all incidents involving these compounds will be considered during the evaluation for full registration along with other

requested data. It should finally be noted that pollinator issues are identified as a PMRA priority. Within this context, the PMRA is working with federal, provincial and international partners as well as other stakeholders including industry to improve risk mitigation measures for pollinators.

- c) In the spring of 2013, Health Canada, with support from the Ontario Ministry of the Environment and OMAFRA, released a report titled, "Evaluation of Canadian Bee Mortalities that Coincided with Corn Planting in Spring 2012". This evaluation noted the "significant number of honey bee mortality reports from the provinces of Alberta, Manitoba, Saskatchewan, Nova Scotia, Quebec and Ontario", but observed that the "majority of reports were from southern Ontario, involving over 40 beekeepers and 240 different bee yard locations", particularly in corn growing regions. Residue analysis was conducted by the PMRA and MAPAQ, the whole as appears from the Health Canada report entitled: "*Evaluation of Canadian Bee Mortalities that Coincided with Corn Planting in Spring 2012*", a copy of which is produced herewith as **Exhibit P-44**:

Clothianidin was detected in approximately 70% of the samples analyzed in Ontario and clothianidin and thiamethoxam were detected in the samples analyzed from Quebec. On a bee yard basis, these residues were detected in approximately 80% of the bee yards where dead bee samples were collected and analysed. Samples of unaffected bees were also analysed and clothianidin was only detected in one sample at very low levels. Corn seed in Ontario and Quebec is treated in approximately equal quantities with either clothianidin or

thiamethoxam. Since thiamethoxam is converted to clothianidin, the detection of clothianidin in dead bees could indicate exposure to either clothianidin or thiamethoxam.

...

The information evaluated suggests that planting of corn seeds treated with the nitroguanidine insecticides clothianidin and/or thiamethoxam contributed to the majority of the bee mortalities that occurred in corn growing regions of Ontario and Quebec in Spring 2012. The likely route of exposure was insecticide contaminated dust generated during the planting of treated corn seed. ...

- d) Since 2010, OMFRA has been tracking over-winter Bee Colony mortalities. OMAFRA has concluded that the scientific findings have shown a strong link between planting corn and soybean seeds treated with Neonicotinoids and acute Bee deaths in Ontario, the whole as appears from the Presentation of Discussion Paper "Pollinator Health" - OMAFRA, a copy of which is produced herewith as **Exhibit P-47**.
- e) In 2010-2011, the winter mortality rate for Bees was 43%. In 2012-2013, the mortality rate was 38%. In 2014, the mortality rate reached its highest level at 58%. Overwinter dies offs have been an average of 34% over the past 12 years. The level generally considered to be acceptable and sustainable by beekeepers is between 10 - 15 %, the whole as appears from the Ontario government report entitled: "*Pollinator Health*", dated November 25, 2014, a copy of which is produced herewith as **Exhibit P-45**.
- f) There are also a considerable number of Bees that are dying during the summer and fall months. In 2012, approximately 240 Bee yards reported Bee deaths. In 2013, 340 Bee yards reported Bee deaths. The PMRA reported that approximately 70% of the dead Bees found in 2012 and 2013 tested positive for Neonicotinoid residues.

- g) The PMRA has stated that current agricultural practises related to Neonicotinoid-treated seed are not sustainable, the whole as appears from the Health Canada interim report entitled: "*Evaluation of Canadian bee mortalities in 2013 related to neonicotinoid pesticides*", dated September 26, 2013, a copy of which is produced herewith as **Exhibit P-46**.
- h) In 2012, Health Canada evaluated the Bee mortalities and concluded that the planting of corn seeds treated with the clothianidin and/or thiamethoxam contributed to the majority of the Bee mortalities that occurred in the corn growing regions of Ontario and Québec.
- i) A similar Health Canada evaluation titled, "Evaluation of Canadian Bee Mortalities in 2013 Related to Neonicotinoid Pesticides" ("Evaluation"), the interim results of which were published in September 2013, found that "approximately 75% of the dead bee samples had detectable residues of neonicotinoid insecticides used to treat corn and soybean seed" and that "[c]lothianidin and/or thiamethoxam were detected in >90% of the comb pollen samples from affected yards and were also detected in some water, soil, and comb honey samples".
- j) The Evaluation also found that "[s]ome beekeepers have reported that they have noticed mortalities in their hives for years, but they had not made the link to pesticides being the cause until the acute kills that were observed in 2012". The Evaluation concluded that "current agricultural practices related to the use of neonicotinoid-treated corn and soybean seed are not sustainable due to their impact on bees and other pollinators".
- k) In late 2013, Canada's Standing Senate Committee on Agriculture and Forestry commenced hearings on "the importance of bees and bee health in the production of honey, food and seed in Canada" with emphasis on the use of Neonicotinoid pesticides and pollinator exposure and protection.
- l) In 2013, OMAFRA released a presentation titled, "Neonicotinoids and Field Crop Production in Ontario" ("Presentation"), a copy of which is produced herewith as

Exhibit P-48. The Presentation stated that Neonicotinoids are now used on:

- (i) 100% of canola acreage;
 - (ii) 99% of corn crop acreage;
 - (iii) 95% of dry bean acreage;
 - (iv) 65% of soybean crop acreage; and
 - (v) 25-33% of cereals acreage.
- q) OMAFRA Field Crop Entomologist and presenter, Tracey Baute, subsequently stated: "It is time to start using these insecticide seed treatments only when necessary. Not every acre in the province needs protection from wireworm and grubs. Only 10 to 20% of the acres are at risk of these two pests, particularly those fields with sandy or silty soils", the whole as appears from an article from Field Crop News entitled: "New 2014 BMPS for pollinator protection and use of Insecticide treated seed", dated January 20, 2014, a copy of which is produced herewith as **Exhibit P-49**.
- r) On May 27th, 2014, the Council for Prince Edward County ("County") passed a resolution that the County would immediately discontinue the use of Neonicotinoid products on municipal property. The County also resolved to, among other things, the whole as appears from the Resolution of the Council for Prince Edward County, dated May 27, 2014, a copy of which is produced herewith as **Exhibit P-50**:
- call on the provincial and federal governments to declare a moratorium surrounding the use of Neonicotinoid crop treatments, as soon as possible, pending further study;
 - circulate its resolution to "other municipalities through the Association of Municipalities of Ontario, to request their support on this serious issue";
 - forward its resolution to "The Right Honourable Stephen Harper, The Honourable Gerry Ritz, Federal Minister of Agriculture and Agri-Food, The Honourable Rona Ambrose, Federal Minister of Health, Federal MP Daryl Kramp, Federal Opposition Members at this time, and the Premier of Ontario, Provincial Minister of

Agriculture and local Provincial Member of Parliament immediately after the Provincial election"; and

- "[u]ntil such time as a moratorium is enacted where an agronomic assessment shows particular fields to be at minimal risk of damage from soil insects...urge farmers to order seed not treated with insecticide for the 2015 growing season, and...urge seed companies to make adequate supplies available".

s) On July 7th, 2014, King Township passed a resolution supporting the actions taken by the County, confirming its commitment to the non-use of Neonicotinoid products on any municipally owned properties, the whole as appears from the Resolution of the King Township's Council, dated July 7, 2014, a copy of which is produced herewith as **Exhibit P-51**.

t) In or around October 2014 in accordance with Section 58 of the *Environmental Bill of Rights, 1993*, the Environmental Commissioner of Ontario, Mr. Gord Miller ("ECO"), released the 2013/2014 Annual Report of the Environmental Commissioner of Ontario ("Annual Report"). As part of the Annual Report, the ECO examined several areas of concern relating to Ontario's agriculture including the growing problem of pollinator declines and the possible role of Neonicotinoid pesticides. At page 54 of the Annual Report, it states, the whole as appears from the Annual Report 2013-2014 of the Environmental Commissioner of Ontario entitled: "*Managing new challenges*", a copy of which is produced above as **Exhibit P-52**:

- "While the impact of neonicotinoids on bees has received a great deal of attention, honey bee declines may be a warning sign of a larger ecological problem. Troubling questions are being raised about the broader environmental effects of these pesticides. This is of concern because the neonicotinoids are not only persistent in soil and water, but also water soluble and highly mobile within ecosystems. ...

As a result, neonicotinoids may accumulate in soil, potentially having adverse effects on soil ecosystems and creating a likelihood of uptake by subsequently

planted crops and wild plants. They [Neonicotinoids] may also migrate into ground and surface water."

- u) The ECO stated following the release of the Annual Report that, the whole as appears from an article from the Toronto Sun entitled: "*Bee-killing pesticides bigger threat than DDT: Ontario enviro commish*", dated October 7, 2014, a copy of which is produced herewith as **Exhibit P-53**:
 - "... everything I have before me ... suggests to me as an ecologist that this [Neonicotinoids] is the biggest threat to the structure and ecological integrity of the ecosystem that I have encountered in my life. Bigger than DDT."
- v) On or around July 1, 2015, Ontario enacted Ontario Regulation 139/15 under the *Pesticides Act*, RSO 1990, c P-11, which specifically targets and regulates the use of Neonicotinoid-treated seeds. This regulation was enacted by the Province of Ontario in response to the growing concerns over the potentially harmful effects of Neonicotinoids on pollinators. Among other things, the Regulation requires the filing of a detailed Pest Assessment report with the Ministry of the Environment and Climate Change before the Neonicotinoid-treated seeds can be purchased and used on more than 50% of a farmer's land.
- w) In 2015, the city of Montreal issued a ban on neonicotinoid pesticides in an effort to better protect the bee population.
- x) On May 4, 2016, the city of Dollard-des-Ormeaux adopted By-law R-2016-099-1 entitled "By-law to amend By-law R-2015-099 concerning the use of pesticides in order to ban the use of neonicotinoids in the city".
- y) On May 9, 2016, the city of Sainte-Anne-de-Bellevue adopted By-law 790 entitled "Règlement relatif à l'utilisation des pesticides" in order to ban the use of pesticides of the neonicotinoid family. Any use of pesticides of the neonicotinoid family is prohibited outside of buildings. This applies without exception to any type of application or land uses.

- z) On May 10, 2017, the city of Pointe-Claire adopted By-law PC-2865 entitled "By-law respecting the use of pesticides in the territory of the city of Pointe-Claire" banning the use of Neonicotinoids.
 - aa) On April 4, 2016, the city of Kirkland adopted a By-law prohibiting the use of various insecticides included in the Neonicotinoid family of pesticides.
 - bb) On August 19, 2013 the Québec government released an overview of the state of Neonicotinoids in Québec, the whole as appears from the copy of the document which is produced herewith as **Exhibit P-63.**
 - cc) The Québec government subsequently released the Québec Pesticide Strategy 2015-2018, which notably seeks to protect pollinators by reducing their exposure to Neonicotinoids, the whole as appears from the copy of the document which is produced herewith as **Exhibit P-64.**
112. At all material times, the Defendants knew or ought to have known that Neonicotinoids would cause damage to the property of the Plaintiff and the other Class Members.
113. The Plaintiff pleads that the Defendants owed it and the other Class Members the following duties of care and other duties:
- a. to ensure that Neonicotinoids were designed and manufactured properly for use in accordance with the principles of sustainable pest management;
 - b. to properly research, test and study the impact of Neonicotinoids on Bees prior to the registration, distribution and sale of Neonicotinoids;
 - c. to take reasonable steps to ensure that Neonicotinoids were designed, manufactured and marketed in a way that would be safe for Bees and would not cause damage to the Plaintiff and Class Members;
 - d. to refrain from manufacturing, distributing and selling a product with a dangerous defect;

- e. warn the Plaintiff and Class Members of all of the dangers and real and substantial risks of danger associated with Neonicotinoids and the harm to Bees as described herein;
- f. to ensure that the representations they made with respect to Neonicotinoids were accurate and made with due care;
- g. to comply with the requirements and conditions of the PMRA with respect to registration of Neonicotinoids;
- h. to provide the PMRA and other regulatory agencies with complete and accurate information on Neonicotinoids and Bee exposure on a timely basis and as such information became available;
- i. keep up to date on scientific studies and developments pertaining to Neonicotinoids and, particularly, their impacts on Bees;
- j. to monitor, investigate, evaluate and follow up on adverse events associated with use of Neonicotinoids;
- k. upon discovering that Neonicotinoids result in death to Bees, cause damage to the Class and are prone to persistence in the soil and groundwater, to promptly remove their Neonicotinoids from the marketplace, disclose the harm and risks of harm to the Plaintiff and Class Members, and take other appropriate remedial actions;
- l. to otherwise take reasonable steps to avoid harm and/or damage to the Plaintiff and the other Class Members; and
- m. to act in good faith toward the Plaintiff and Class Members.

114. The Defendants are at fault for breaching, and continuing to breach, these duties by:

- a. designing and manufacturing Neonicotinoids in a way that, when used as directed, is contrary to the principles of sustainable pest management;
- b. failing to adequately research, test and study the impact of Neonicotinoids on Bees prior to registering, distributing and selling Neonicotinoids;

- c. failing to adequately research, test and study Neonicotinoids in a manner that would fully disclose the magnitude of their risks to the Plaintiff and Class Members;
- d. negligently designing, manufacturing and marketing products that were likely to, and did, cause foreseeable damage to the Plaintiff and Class Members;
- e. designing pest control products that contain dangerous defects;
- f. manufacturing, distributing, marketing and selling products that are unreasonably hazardous to the property of the Plaintiff and Class Members;
- g. failing to warn the Plaintiff and Class Members of the dangers and real and substantial risks of danger associated with Neonicotinoids;
- h. marketing Neonicotinoids in a manner which was intended to and did have the effect of rendering Neonicotinoids ubiquitous and inescapable for Bees, resulting inevitably in damage to the Class;
- i. making false, misleading and deceptive statements, including in circumstances where the statements were unreasonable in the face of the risks that were or ought to have been known to the Defendants, relating to:
 - i. the use and possible impacts of Neonicotinoids;
 - ii. the risks of Neonicotinoids to Bees and damage to the Plaintiff and Class Members; and
 - iii. the state of research, opinion and scientific literature pertaining to the risks associated with the use of Neonicotinoids to Bees and the Class;
- j. the Defendants have consistently taken the position that there is no study confirming that Neonicotinoids have harmful effects on Bees. The whole as appears from the copies of the documents from Bayer and Syngenta which are produced herewith as **Exhibits P-65** and **P-66**;
- k. making these, and other, false, misleading and deceptive representations to the PMRA;

- l. failing or refusing to comply with the PMRA's requests for information and studies on the impacts of Neonicotinoids on Bees;
- m. negligently or recklessly ignoring or failing to keep up to date on scientific studies and developments pertaining to Neonicotinoids and, particularly, their impacts on Bees;
- n. failing to provide the PMRA and other regulatory agencies with complete and accurate information on Neonicotinoids and Bee exposure on a timely basis and as such information became available;
- o. failing or refusing to monitor, investigate, evaluate and follow up on adverse events associated with use of Neonicotinoids;
- p. after becoming aware of the problems or potential problems with the use of Neonicotinoids and their impacts on Bees and the Class, failing to seek to suspend the registrations of Neonicotinoids, publicize the problems, warn of the harm, and cease or limit manufacturing and distribution of Neonicotinoids;
- q. failing to institute an effective products recall upon discovering the harm of Neonicotinoids to Bees and the Class;
- r. to otherwise take reasonable steps to avoid harm and/or damage to the Plaintiff and the other Class Members;
- s. failing to act in good faith toward the Plaintiff and Class Members;
and
- t. breaching other duties of care to the Plaintiff and Class Members, the details of which are known only to the Defendants.

115. The Plaintiff and Class Members owned Bees that died or were harmed and/or owned Beehive products that were contaminated or otherwise damaged as a direct result of Neonicotinoids.

116. The damages suffered by the Plaintiff and Class Members would not have occurred but for the fault of the Defendants.

117. In the circumstances of this case, the Defendants applied callous and reckless disregard for the property of the Plaintiff and Class Members.

THE PERSONAL CLAIMS OF EACH OF THE MEMBERS OF THE CLASS AGAINST THE DEFENDANTS ARE BASED ON THE FOLLOWING FACTS:

118. The claims of each Class Member are based on the same facts as those upon which the claim of the Plaintiff is based.
119. The Plaintiff is a Class Member.
120. Class Members have been, and continue to be, injured by the Defendants' Neonicotinoids. The monetary damages to their businesses are significant, and include: the costs of replacing killed and weakened Bees, loss of Queen Bees, contaminated beeswax, comb and Beehives; reduced honey production, contaminated honey; lost profits associated with, among other things, reduced production and quality of honey, beeswax, mead and other outputs, and the inability to perform contracted pollination services; costs associated with the purchase of honey to meet existing contracts; increased labour, equipment and supply expenditures; and other costs. These losses were not insured nor are they currently insurable.

THE COMPOSITION OF THE CLASS MAKES IT DIFFICULT AND/OR IMPRACTICAL TO APPLY THE RULES FOR MANDATES TO SUE ON BEHALF OF OTHERS OR FOR CONSOLIDATION OF PROCEEDINGS FOR THE FOLLOWING REASONS:

121. The size of the Class consists of hundreds of persons geographically dispersed throughout Québec. According to the *Fédération des Apiculteurs du Québec* website, there were more than 300 beekeepers in Québec as of 2014.
122. Thus, it is impossible for the Plaintiff to identify all such potential Class Members and/or obtain a mandate from each of them.
123. A class action will ensure the most efficient use of judicial resources.

THE IDENTICAL, SIMILAR OR RELATED QUESTIONS OF LAW OR OF FACT BETWEEN EACH MEMBER OF THE CLASS AND THE DEFENDANTS, WHICH PLAINTIFF WISHES TO HAVE DECIDED BY THIS CLASS ACTION ARE:

124. The identical, similar or related questions of fact and law between each Class Member and the Defendants which the Plaintiff wishes to have settled by the class action are as follows:

- a. Can Neonicotinoids researched, designed, developed, manufactured, marketed, distributed and/or sold by the Defendants, or any one of them, cause damage to the Class?
- b. Did the Defendants, or any one of them, commit a fault in violation of section 1457 of the *Civil Code of Québec* in the research, design, development, manufacture, marketing, distribution and/or sale of Neonicotinoids?
- c. Did the Defendants, or any one of them, commit a fault in violation of section 1457 of the *Civil Code of Québec* by failing to warn the Class about the risks to Bees associated with Neonicotinoids?
- d. Did the Defendants, or any one of them, commit a fault in violation of section 1457 of the *Civil Code of Québec* by making misstatements with respect to the risks to Bees associated with Neonicotinoids?
- e. If the above questions are answered in the affirmative, did the Plaintiff and the Class suffer damages as a result of the conduct of the Defendants?
- f. Are the Defendants jointly, or severally, liable for past, present and future pecuniary losses and damages suffered by the Class?
- g. Are the Defendants jointly, or severally, liable for punitive damages?

THE QUESTIONS OF LAW OR OF FACT WHICH ARE PARTICULAR TO EACH OF THE MEMBERS OF THE CLASS ARE:

125. Out of the damages recovered by the Class, collectively, from the Defendants, what amount of damages is each member of the Class entitled to?

IT IS EXPEDIENT THAT THE INSTITUTION OF A CLASS ACTION FOR THE BENEFIT OF THE MEMBERS OF THE CLASS BE AUTHORIZED FOR THE FOLLOWING REASONS:

126. The class action is an efficient procedural vehicle that allows members of the Class to have access to justice.
127. The legal and factual issues surrounding the Defendants conduct and their liability are identical for each member of the Class.

128. It is in the interests of justice that Class Members be given the opportunity to participate in the institution of a class action, which would benefit all those who have sustained damages as a result of the Defendants conduct.

THE NATURE OF THE RECOURSE WHICH THE PLAINTIFF WISHES TO EXERCISE ON BEHALF OF THE MEMBERS OF THE CLASS IS:

129. The nature of the recourse which the Plaintiff wishes to exercise on behalf of the members of the Class is an action in civil liability and damages.

THE CONCLUSIONS SOUGHT BY PLAINTIFF AGAINST THE DEFENDANTS ARE AS FOLLOWS:

130. The conclusions sought by the Plaintiff are:

GRANT the Plaintiff's action against the Defendants;

CONDEMN the Defendants jointly to pay the Plaintiff and the Class Members on an aggregate basis an amount to be determined as compensatory damages, the whole with interest and additional indemnity pursuant to section 1619 of the *Civil Code of Québec*, reckoned from the date of service of the present motion;

ORDER the collective recovery of the damage claims;

CONDEMN the Defendants jointly to pay punitive damages and/or grant the Plaintiff and the Class Members such further relief payment as this Honourable Court may determine as being just and proper;

THE WHOLE with costs, including the costs of all exhibits, experts, expertise and publication notices.

PLAINTIFF REQUESTS THAT IT BE ASCRIBED THE STATUS OF REPRESENTATIVE

PLAINTIFF IS IN A POSITION TO REPRESENT THE MEMBERS OF THE CLASS ADEQUATELY FOR THE FOLLOWING REASONS:

131. The Plaintiff, who requests that it be ascribed the status of representative, will fairly and adequately protect and represent the interests of the Class members for the following reasons:
- a. The Plaintiff understands the nature of the action;
 - b. The Plaintiff is well-informed of the facts alleged in this motion;

- c. The Plaintiff is available to dedicate the time necessary for an action to collaborate with members of the Class;
- d. The Plaintiff has retained an established law firm with experience in class actions;
- e. The Plaintiff does not have any interests in conflict with other Class Members.

THE PLAINTIFF PROPOSES THAT THE CLASS ACTION BE BROUGHT BEFORE THE SUPERIOR COURT OF THE DISTRICT OF MONTRÉAL FOR THE FOLLOWING REASONS:

132. Bayer Inc. has a principal establishment in Montréal.

133. Syngenta Canada Inc. has a presence in the nearby city of Saint-Pie, Québec.

134. The present motion is well founded in law and in fact.

WHEREUPON THE PLAINTIFF PRAYS:

THAT the present application be granted;

THAT the bringing of a class action be authorized as follows:

A civil liability action for damages

THAT the status of representative be granted to the Plaintiff for bringing the said class action for the benefit of the Class described as follows, namely:

All persons in Quebec who own or owned Bees in the Affected Area during the Class Period.

THAT the principal questions of fact and law be dealt with collectively and be identified as follows:

- a. Can Neonicotinoids researched, designed, developed, manufactured, marketed, distributed and/or sold by the Defendants, or any one of them, cause damage to the Class?
- b. Did the Defendants, or any one of them, commit a fault in violation of section 1457 of the *Civil Code of Québec* in the research, design, development, manufacture, marketing, distribution and/or sale of Neonicotinoids?

- c. Did the Defendants, or any one of them, commit a fault in violation of section 1457 of the *Civil Code of Québec* by failing to warn the Class about the risks to Bees associated with Neonicotinoids?
- d. Did the Defendants, or any one of them, commit a fault in violation of section 1457 of the *Civil Code of Québec* by making misstatements with respect to the risks to Bees associated with Neonicotinoids?
- e. If the above questions are answered in the affirmative, did the Plaintiff and the Class suffer damages as a result of the conduct of the Defendants?
- f. Are the Defendants jointly, or severally, liable for past, present and future pecuniary losses and damages suffered by the Class?
- g. Are the Defendants jointly, or severally, liable for punitive damages?

THAT the conclusions sought with respect to such questions be identified as follows:

GRANT the Plaintiff's action against the Defendants;

CONDEMN the Defendants jointly to pay the Plaintiff and the Class Members on an aggregate basis an amount to be determined as compensatory damages, the whole with interest and additional indemnity pursuant to section 1619 of the *Civil Code of Québec* (SQ 1991, c 64), reckoned from the date of service of the present motion;

ORDER the collective recovery of the damage claims;

CONDEMN the Defendants jointly to pay punitive damages and/or grant the Plaintiff and the Class Members such further relief payment as this Honourable Court may determine as being just and proper;

THE WHOLE with costs, including the costs of all exhibits, experts, expertise and publication notices.

THAT it be declared that any Class Member who has not requested exclusion from the Class be bound by any judgment to be rendered on the class action in accordance with the *Code of Civil Procedure*;

THAT the delay for exclusion be set at 30 days from the notice to the Class Members and that at the expiration of such delay, any Class Member who has not requested exclusion be bound by any such judgment;

THAT it be ordered that a Notice to Class Members be mailed directly to any potential Class Member that has contacted Plaintiff's counsel about this action;

THAT it be ordered that a Notice to Class Members be mailed directly by the Defendants to any direct purchaser of Neonicotinoid in Quebec;

THAT it be ordered that a Notice to Class Members be published in both the paper and online versions of The Gazette, *La Presse*, *La Revue L'Abeille* and *Le Bulletin des Agriculteurs*. Furthermore, the Plaintiff will ask that the Notice be voluntarily published on the websites of the *Fédération des Apiculteurs du Québec* and the Canadian Honey Council, and that these organizations send the Notice to their members.

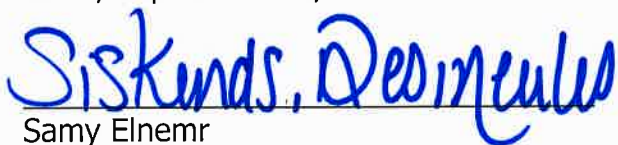
THAT the Defendants be ordered to assume the publication costs of the Notice to Class Members;

THAT the record be referred to the Chief Justice so that he may determine the district wherein the class action is to be brought and the judge before whom it will be heard;

THAT the clerk of this Court be ordered, upon receiving the decision of the Chief Justice, in the event that the class action is brought to another district, to transmit the present record to the clerk of the designated district;

THE WHOLE with costs, including the costs of notices.

Laval, September 26, 2017



Samy Elnemr

samy.elnemr@siskindsdesmeules.com

SISKINDS, DESMEULES, AVOCATS, S.E.N.C.R.L.

Lawyers for the Plaintiff

1430, boul. Saint-Martin West, Suite 322

Laval (Québec) H7S 1M9

Telephone: 450-686-4599

Fax: 450-973-1127

notification@siskindsdesmeules.com

**CANADA
PROVINCE OF QUÉBEC
DISTRICT OF MONTRÉAL
NO: 500-06-000714-143**

**(Class Action)
SUPERIOR COURT**

Steve Martineau

Plaintiff

v.

Bayer CropScience Inc.

and

Bayer Inc.

and

Bayer CropScience AG

and

Syngenta Canada Inc.

and

Syngenta International AG

Defendants

NOTICE

TO: **Me William McNamara**
Société d'avocats Torys s.e.n.c.r.l.
1 Place Ville-Marie, Suite 1919
Montréal (Québec) H3B 2C3

Attorneys for the Defendants **Bayer CropScience Inc., Bayer Inc. and Bayer CropScience AG**

TO: **Me Jean Lortie**
McCarthy Tétrault s.e.n.c.r.l., s.r.l.
1000, rue de la Gauchetière Ouest, Suite 2500
Montréal (Québec) H3B 0A2

Attorneys for the Defendants **Syngenta Canada Inc.** and **Syngenta International AG**

TAKE NOTICE that the application will be presented for adjudication at the Montréal Courthouse located at 1 Notre-Dame Est, Montréal, Québec at a date and a room to be determined by the Honourable Thomas M. Davis of the Superior Court of Montréal.

Laval, September 26, 2017



Samy Elnemr
samy.elnemr@siskindsdesmeules.com
SISKINDS, DESMEULES, AVOCATS, S.E.N.C.R.L.
Lawyers for the Plaintiff
1430, boul. Saint-Martin West, Suite 322
Laval (Québec) H7S 1M9
Telephone: 450-686-4599
Fax: 450-973-1127
notification@siskindsdesmeules.com

**CANADA
PROVINCE OF QUÉBEC
DISTRICT OF MONTRÉAL
NO: 500-06-000714-143**

**(Class Action)
SUPERIOR COURT**

Steve Martineau

Plaintiff

v.

Bayer CropScience Inc.

and

Bayer Inc.

and

Bayer CropScience AG

and

Syngenta Canada Inc.

and

Syngenta International AG

Defendants

AMENDED LIST OF EXHIBITS

EXHIBIT P-1: Poster of the Task Force on Systemic Pesticides entitled: "*Systemic Pesticides (Neonicotinoids and Fipronil) Too Much Risk for Biodiversity and Natural Ecosystems, Task Force on Systemic Pesticides*", dated September 2012;

EXHIBIT P-2: Report of the Xerces Society for Invertebrate Conservation entitled: "*How Neonicotinoids Can Kill Bees – The Science Behind the Role These Insecticides Play in Harming Bees*", dated November 2016;

- EXHIBIT P-3:** Article from the journal, Environmental Pollution, entitled: "*Widespread occurrence of Neonicotinoid Insecticides in streams in a high corn and soybean producing region, USA*", dated October 2014;
- EXHIBIT P-4:** Article from the American Bee Journal entitled: "*The Curious Beekeeper*", dated June 2014;
- EXHIBIT P-5:** Article from BC Farms and Food entitled: "*Where Have All the Bees Gone?*", dated July 16, 2013;
- EXHIBIT P-6:** Backgrounder of the Canadian Association of Physicians for the Environment entitled: "*Neonics, Honey Bees and Food Security*", dated May 2016;
- EXHIBIT P-7:** 2014/2015 Annual Report of the Environmental Commissioner of Ontario, dated November 2015;
- EXHIBIT P-8:** 2014/2015 Annual Supplement to the 2014/2015 Annual Report of the Environmental Commissioner of Ontario;
- EXHIBIT P-9:** 2013/2014 Annual Report of the Environmental Commissioner of Ontario, dated October 2014;
- EXHIBIT P-10:** Article from Radio Canada International entitled: "Plans to phase-out a pesticide harmful to ecosystems", dated November 24, 2016;
- EXHIBIT P-11:** Regulatory Note REG2001-11, dated September 7, 2001;
- EXHIBIT P-12:** Report from Buglife – The Invertebrate Conservation Trust entitled: "*The impact of Neonicotinoid Insecticides on Bumblebees, Honey Bees and other non-target invertebrates*", dated September 2009;
- EXHIBIT P-13:** PMRA Joint Review Update JR2004-01, dated January 1, 2004;
- EXHIBIT P-14:** EPA Pesticide Fact Sheet, dated May 30, 2003;
- EXHIBIT P-15:** Entry for Thiamethoxam in the Pesticide Action Network Pesticides Database;
- EXHIBIT P-16:** Article from the Farms at Work entitled: "*10 facts about Neonicotinoids in Ontario*", dated August 2013;
- EXHIBIT P-17:** Report from the IATP entitled: "*Unknown benefits, Hidden costs*", dated August 2015;

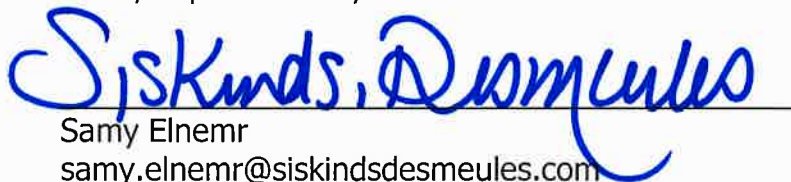
- EXHIBIT P-18:** Excerpt of the Health Canada website, dated February 17, 2015;
- EXHIBIT P-19:** Article from the Task Force on Systemic Pesticides;
- EXHIBIT P-20:** Article from the journal, *Scientific Reports*, entitled: "*Sublethal effects of dietary Neonicotinoid Insecticide exposure on Honey Bee queen fecundity and colony development*", dated August 26, 2016;
- EXHIBIT P-21:** Report from the European Parliament "*Existing Scientific Evidence of the Effects of Neonicotinoid Pesticides on Bees*", dated December 2012;
- EXHIBIT P-22:** Article from *Scientific Reports* entitled: "*Neonicotinoid pesticides severely affect honey Bee queens*", dated October 13, 2015;
- EXHIBIT P-23:** Report from the Center for Food Safety entitled: "*Pollinators and Pesticides*", dated September 2013;
- EXHIBIT P-24:** Article from the journal, *Functional Ecology*, entitled: "*Chronic impairment of bumblebee natural foraging behaviour induced by sublethal pesticide exposure*", dated July 7, 2014;
- EXHIBIT P-25:** Health Canada's PMRA Annual Report 2012-2013;
- EXHIBIT P-26:** Health Canada's Conditional Registrations;
- EXHIBIT P-27:** Health Canada's Registration Decision RD2013-14, dated July 23, 2013;
- EXHIBIT P-28:** Health Canada's Re-evaluation Note REV2016-04 – Joint PMRA/USEPA Re-evaluation Update for the Pollinator Risk Assessment of the Neonicotinoid Insecticides, dated January 6, 2016;
- EXHIBIT P-29:** Report from the European Environment Agency entitled: "*Late lessons from early warnings II: Chapter 16 - Seed-dressing systemic insecticides and honeybees*", dated January 22, 2013;
- EXHIBIT P-30:** Report from the Task Force on Systemic Pesticides entitled: "*Worldwide integrated assessment of the impacts of systemic pesticides on biodiversity and ecosystems*", dated August 23, 2014;
- EXHIBIT P-31:** Report from the Permanent Peoples' Tribunal – Session on agrochemical transnational corporations, Bangalore, dated December 3-6, 2011;

- EXHIBIT P-32:** Report from the EFSA – Conclusion on the peer review of the pesticide risk assessment for Bees for the active substance thiamethoxam, dated March 14, 2013;
- EXHIBIT P-33:** Press release from the European Commission, dated May 24, 2013;
- EXHIBIT P-34:** Article from The Western Producer entitled: "*Neonicotinoids jeopardize Manitoba buckwheat exports*", dated January 31, 2014;
- EXHIBIT P-35:** Article from Chemical & Engineering News entitled: "*Why are the Bees dying?*", dated June 18, 2007;
- EXHIBIT P-36:** Article from the Guardian entitled: "*Pesticides: Germany bans chemicals linked to honeybee devastation*", dated May 23, 2008;
- EXHIBIT P-37:** Factsheet of the Pesticide Action Network UK entitled: "*Different regulatory positions on Neonicotinoids across Europe*", dated September 2012;
- EXHIBIT P-38:** Memorandum of the U.S. EPA – Environmental Fate and Effects Division, dated February 25, 2003;
- EXHIBIT P-39:** Pesticide Fact Sheet of the U.S. EPA, dated May 30, 2003;
- EXHIBIT P-40:** Memorandum of the U.S. EPA – Environmental Fate and Effects Division, dated November 2, 2010;
- EXHIBIT P-41:** U.S. EPA – Clothianidin Summary Document, dated December 14, 2011;
- EXHIBIT P-42:** Health Canada's Evaluation of Pesticide Incident Report 2010-3100, dated December 30, 2010;
- EXHIBIT P-43:** Health Canada's Evaluation of Pesticide Incident Report 2010-3391, dated December 31, 2010;
- EXHIBIT P-44:** Health Canada report entitled: "*Evaluation of Canadian Bee Mortalities that Coincided with Corn Planting in Spring 2012*",
- EXHIBIT P-45:** Ontario government report entitled: "*Pollinator Health*", dated November 25, 2014;
- EXHIBIT P-46:** Health Canada interim report entitled: "*Evaluation of Canadian Bees mortalities in 2013 related to Neonicotinoid pesticides*", dated September 26, 2013;

- EXHIBIT P-47:** Presentation of Discussion Paper "Pollinator Health" – OMAFRA;
- EXHIBIT P-48:** Presentation entitled: "Neonicotinoids and Field Crop Production in Ontario" ("Presentation");
- EXHIBIT P-49:** Article from Field Crop News entitled: "New 2014 BMPS for pollinator protection and use of Insecticide treated seed", dated January 20, 2014;
- EXHIBIT P-50:** Resolution of the Council for Prince Edward County, dated May 27, 2014;
- EXHIBIT P-51:** Resolution of the King Township's Council, dated July 7, 2014;
- EXHIBIT P-52:** Annual Report 2013-2014 of the Environmental Commissioner of Ontario entitled: "*Managing new challenges*";
- EXHIBIT P-53:** Article from the Toronto Sun entitled: "*Bee-killing pesticides bigger threat than DDT: Ontario enviro commish*", dated October 7, 2014;
- EXHIBIT P-54:** Information Sheet of the *Registraire des entreprises* for Château de Cyr;
- EXHIBIT P-55:** Analysis report of the Ministry of Agriculture, Fisheries and Foods of Québec;
- EXHIBIT P-56:** Interpretation of the results of the Ministry of Agriculture, Fisheries and Foods of Québec;
- EXHIBIT P-57:** Various reports *en liasse* of the Ministry of Agriculture, Fisheries and Foods of Québec;
- EXHIBIT P-58:** Health Canada's Update on Canadian Bee Incident Reports, 2012-2016;
- EXHIBIT P-59:** Article from the journal, Science, entitled: "*A cocktail of toxins: The effects of sustained Neonicotinoid exposure on Bees depend on location, but are usually negative,*" dated June 30, 2017;
- EXHIBIT P-60:** Article from the journal, Science, entitled: "*Country-specific effects of Neonicotinoid pesticides on honey Bees and wild Bees,*" dated June 30, 2017;
- EXHIBIT P-61:** Article from the journal, Science, entitled: "*Chronic exposure to Neonicotinoids reduces honey Bee health near corn crops,*" dated June 30, 2017;

- EXHIBIT P-62:** Article from the Journal of Applied Ecology, entitled: "Planting of Neonicotinoid-treated maize poses risks for honey Bees and other non-target organisms over a wide area without consistent crop yield benefit," dated 2017;
- EXHIBIT P-63:** Overview of the state of Neonicotinoids in Québec released by the Québec government, dated August 19, 2013;
- EXHIBIT P-64:** Québec Pesticide Strategy 2015-2018 released by the Québec government;
- EXHIBIT P-65:** The Bayer bee care position (2016);
- EXHIBIT P-66:** Syngenta Understanding the problem (2015);
- EXHIBIT P-67:** The Task Force on Systemic Pesticides update (2017).

Laval, September 26, 2017



Samy Elnemr

samy.elnemr@siskindsdesmeules.com

SISKINDS, DESMEULES, AVOCATS, S.E.N.C.R.L.

Lawyers for the Plaintiff

1430, boul. Saint-Martin West, Suite 322

Laval (Québec) H7S 1M9

Telephone: 450-686-4599

Fax: 450-973-1127

notification@siskindsdesmeules.com

**CANADA
PROVINCE DE QUÉBEC
DISTRICT OF MONTREAL**

SUPERIOR COURT (Class Action)

NO : 500-06-000714-143

STEVE MARTINEAU
Plaintiff

c.

BAYER CROPSCIENCE INC.
and
BAYER INC.
and
BAYER CROPSCIENCE AG
and
SYNGENTA CANADA INC.
and
SYNGENTA INTERNATIONAL AG
Defendants

**RE-RE AMENDED APPLICATION FOR
AUTHORIZATION TO INSTITUTE A CLASS
ACTION AND TO OBTAIN THE STATUS OF
REPRESENTATIVE
(Articles 574 CCP and following)**

BB-6852

Casier 15

Me Samy Elnemr

samy.elnemr@siskindsdesmeules.com

off : 67-154

Courriel : notification@siskindsdesmeules.com

SISKINDS
MONTREAL

SISKINDS, DESMEULES, AVOCATS, S.E.N.C.R.L.

1430, boul. Saint-Martin Ouest, bureau 322
Laval, Québec H7S 1M9
Tel. : (450) 686-4599
Fax : (450) 973-1127
www.siskinds.com