FACT BOOK

alvéole

BEES

STINGS

- Honey bees are not interested in human beings. Their daily quest is to bring nectar, pollen, resin and water back to the colony to ensure its development.
- Bees only resort to stinging when they feel their colony is threatened. This shouldn't come as a big surprise when you consider that, unlike wasps, bees die shortly after delivering a sting. Their stinger gets stuck and tears off, taking part of their abdomen with it.
- Bees have no motivation to sting unless aggression is demonstrated towards them.
- Italian bees have a very mild temperament. Because of this, they're perfect neighbours in densely populated urban areas. It's also why urban beekeepers wear little or no protection.
- At Alvéole, we work with a special breed of Italian bees, selected over five years for their docility. We've been installing hives at hundreds of companies and schools for years, and we've never had to deal with a major issue related to bee stings. Of course, the possibility of getting stung while standing close to a beehive exists, but it's very slim.
- Many people who have suffered a painful sting think it was caused by a bee — yet fail to find a stinger in their skin. This means they were more likely stung by a wasp. Wasp stingers, unlike those of bees, are streamlined and can be pushed in or out of their abdomens as they please.

BEEHIVES

- At the height of the season, each hive contains up to 50,000 individuals.
- Approximately 90% of the bees in the hive are workers (females), and 10% are drones (males).
- Honeycombs are quite literally the heart of the beehive. Each cell in the honeycomb is built from wax secreted by the bees. These cells are used to store all of the elements that are crucial to the survival of the colony and its development: resources (nectar, honey and pollen) and brood (eggs, larvae and pupae).

MEMBERS OF THE HIVE

- There is only one queen per hive. In ideal conditions, Her Majesty can live for up to five years. She requires a court of bees to help feed, hydrate and clean her, as she is too busy laying up to 2,000 eggs daily to do it herself.
- Male bees within the hive do not have stingers — instead they have a reproductive system. Drones do not forage for resources, as their primary role is to mate with a virgin queen from another hive.
- Worker bees may only live between 30 and 45 days, but they occupy a variety of different roles during that time: cleaning, nursing, building, fanning, guarding and foraging.

WINTER

- During the winter, the bees will stay comfortably in the warmth of their hive, where they'll maintain an internal temperature of up to 35 degrees Celsius. To do so, they form a tight cluster around the queen and keep warm by contracting their thoracic muscles.
- When winter is over, strong hives are divided into several smaller ones — a bit like perennial plants — to distribute the hive's strength and population size.

COHABITATION IN URBAN ENVIRONMENTS

- Bees do not eat anything other than nectar and pollen, as opposed to wasps, who feed their young with animal or insect protein.
- Sharing the city with honey bees is simple, easy and natural. After all, they are only one of the numerous species of pollinators, such as friendly butterflies, bumble bees and wild bees, with whom we share our urban area.
- Bee colonies flourish in urban areas. The reason? They require an environment fulfilling three criteria: the absence of pesticides, an abundance of water and floral resources, and a temperate climate.

INTERESTING FACTS

- Workers dedicate their lives to serving the colony. They will never leave it for another.
- Bees can see colour, particularly blue, purple and violet.
- As they get older, worker bees are given increasingly complex tasks.
- Each worker bee lives from 3 to 6 weeks in the summer, and 3 to 6 months in the winter.
- Bees communicate with pheromones, smells that cause a response in other members of the hive.
- It is estimated that bees need to eat 8 kilos of honey to produce a single kilo of beeswax.

HONEY

COMPOSITION

- Nectar in plants and flowers is collected by the bees in a radius of 5 kilometres of their hive. Gradually, this nectar is transformed into honey by bees, who add enzymes and remove a lot of its water content. Honey is then stored in cells for long-term use, each cell sealed with a thin layer of wax to preserve it.
- Each honey is a reflection of the ecosystem that surrounds the hive where it was produced, encompassing all the flavours from all the flowers visited by the bees.

CRYSTALLIZATION & CONSERVATION

- Every artisanal, raw and unpasteurized honey will eventually crystallize. Crystallization is a normal, natural and inevitable process — not a sign that the honey has gone off.

- Crystallized honey retains all of its flavour and properties (enzymes, proteins and vitamins). It simply changes in texture.
- Honey can be stored indefinitely at room temperature because of its high sugar content.

INTERESTING FACTS

- Bees fly the equivalent of four times the earth's circumference to produce one kilogram of honey.
- Bees visit up to 4,500,000 flowers to produce every kilogram of honey.
- Each bee will produce about 1/8 teaspoon of honey in its entire lifetime.

URBAN BEEKEEPING

BENEFITS

- An urban beehive is an unparalleled educational tool as well as a promoter of important attitude changes with respect to the environment. And, it can have a positive impact on the surrounding ecosystem.
- The installation of a hive in an urban environment requires minimal resources, but brings a flood of direct and indirect benefits, notably social and ecological. The practice brings together city dwellers, allows the repurposing of an unused space, highlights a variety of issues related to the environment, industrial agriculture, pollination and greening while producing local, artisanal honey.

ORIGINS

- Before its revival by city folks, beekeeping was an agricultural practice based on the economic benefits of honey production. Today, urban beekeeping largely exceeds economic necessity and helps to raise awareness surrounding industrial agriculture and its devastating impact on the environment.
- Certain pioneering initiatives allowed for the growth of the urban agricultural movement. This is the case with the hives at the Opéra de Paris, installed in 1982. However, the latter is not the oldest urban beekeeping project within the city: a beekeeping school has existed in the Luxembourg Gardens since 1856.

POLLINATORS

HONEY BEES

- Honey bees are excellent pollinators, thanks in part to their large numbers. They're also available on demand: in fact, many crop producers, like blueberry and apple growers, depend on beekeepers to travel to their location with hundreds of hives in tow.

WILD BEES

- The honey bee used in beekeeping is not indigenous to Canada. However, our area does include hundreds of species that have evolved here in our various ecosystems, along with our indigenous flora: solitary bees (both wild and social), such as the Megachile, Osmia, Halictus and Andrena, as well as certain bumble bees.

POLLINATOR POPULATIONS IN DECLINE

- Populations of bees, butterflies, bumble bees and other pollinators are declining around the world. Just like honey bees, these pollinators are facing the threat of industrial agriculture (such as the massive use of pesticides and habitat loss) as well as climate change.
- To slow the decline in pollinator populations, conventional agricultural practices need to be radically changed to support ecological agriculture, which means growing without synthetic pesticides, using crop rotation, creating and preserving habitats, and protecting water sources from contamination.

ROLE IN FOOD PRODUCTION

- Pollinators are responsible for the pollination of more than 130 varieties of fruit and vegetables—that's a third of the food we eat.
- Almonds, cranberries, apples, blueberries, broccoli, cauliflower, celery, asparagus, avocados, pulses: these are a few examples of crops that entirely depend on pollinating insects.
- The decline in pollinators coincides with a growth in demand for agriculture, resulting in a rise in food cost.

ALVÉOLE

- Since 2013, Alvéole has been installing beehives across North America and Europe, educating companies, organizations, and schools about bees and beekeeping, as well as shedding light on important issues related to industrial agriculture, such as pesticide use, monocultures and the loss of biodiversity.
- Bees are safe enough for schools: Alvéole has initiated over 150 beekeeping projects in Canadian schools, teaching kids about biodiversity and food production.
- More than 500 companies in North America and Europe have installed beehives on their rooftop or land in partnership with Alvéole.
- Alvéole estimates having reached at least 25,000 people of all ages and backgrounds through its beekeeping services and educational workshops since its inauguration in 2013.
- Close to 96% of corporate clients renew their services with Alvéole every year.