

# BLQ Api - Bologna Airport and bees to measure air quality

This survey aims to involve all the participants in a fantastic universe that smells of honey and flowers, leading them to reflect on the importance of animal pollinators and the role bees have in society and the environment surrounding us.

The questionnaire has a purely exploratory objective: it wants to investigate the degree of knowledge that people have about pollinators' life and habits, with a focus on bees, while probing their approach to environmental issues in general. The questions would also be a stimulus to draw attention to the relevance and criticalities that characterize this fascinating world, which is so important for all of us.

Thanks for your collaboration!

## Privacy

PRIVACY. The undersigned authorizes the processing of the personal data indicated above pursuant to the General Data Protection Regulation Reg. (EU) 2016/679 and Privacy Code and subsequent amendments, for any purpose connected to the activities related to this interview. \*

I accept

**1) Pollinators - How much do you know about pollinating insects?**

**1.a)** Are insects the only animals that make up the large group of pollinators?

- Insects are the only animals that make up the pollinator group
- Bees are the only pollinating animals
- There are also other species of non-insect animals (such as birds), albeit in a minority

**1.b)** The term "pollinating insects" defines all those insects carrying pollen from one flower to another, allowing pollination and the formation of the fruit.

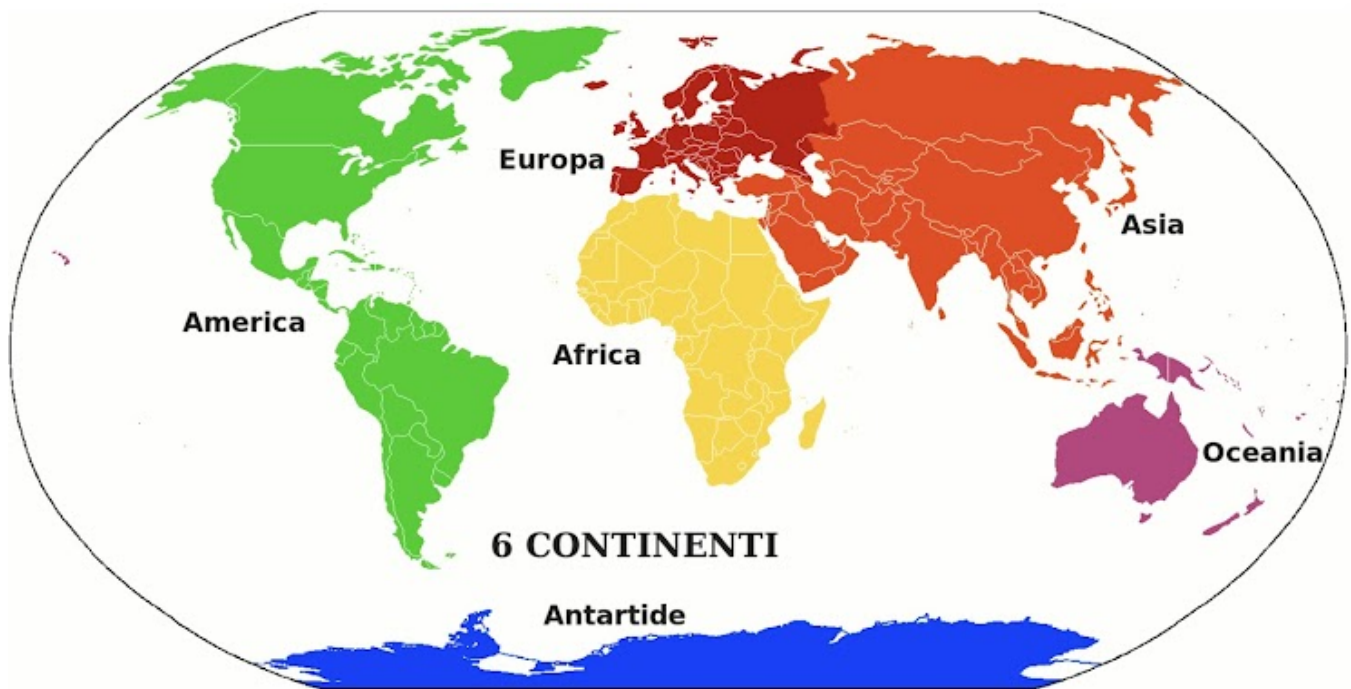
Why do we often hear news about these insects (e.g. bees) on the main communication channels recently?

- Because they are pretty
- Because pollinators' life is threatened
- Because they produce honey
- Because they are so numerous

**1.c)** Are pollinators only species raised by humans, such as bees, or are there also wild species?

- All pollinators are raised by humans
- There are many wild species living in nature

1.d) Which geographic region is most vulnerable to pollinator loss?



- Asia
- America
- Europe
- Africa
- Antarctica
- The whole world is variously vulnerable

2) Bees - How well do you know bees?

Bees are the main responsible in charge of the very important ecosystem service of pollination by animal, symbol of the group of pollinating insects as they are numerically predominant within it. Therefore, these little buzzing striped insects will be the protagonists of the following questions.

**2.a)** For what purpose do bees use the stinger?

- To attack anyone
- For defense purposes
- To be more beautiful
- To hit the prey and eat it

**2.b)** What would happen if bees disappear from the planet?

- Nothing
- Companies that produce insecticides would go bankrupt
- There would be a significant decline in the production of fruit, vegetables and many other crops
- Plants would no longer make flowers

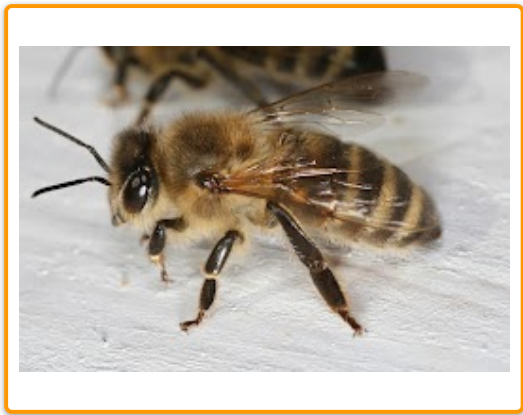
**2.c)** Is coexistence with bees possible in urbanized contexts such as cities?

- No, the law prohibits it because it is considered dangerous for people's health
- No, they would die due to food shortages and excessive smog
- Yes, it is possible by respecting rules and regulations; moreover, cities can offer a hospitable environment full of biodiversity

2.d) Besides the lack of honey, would the disappearance of bees impact human nutrition?

- Yes, because not being pollinated, many plant species would show a decline in production
- No, because they only produce honey as an edible food for humans

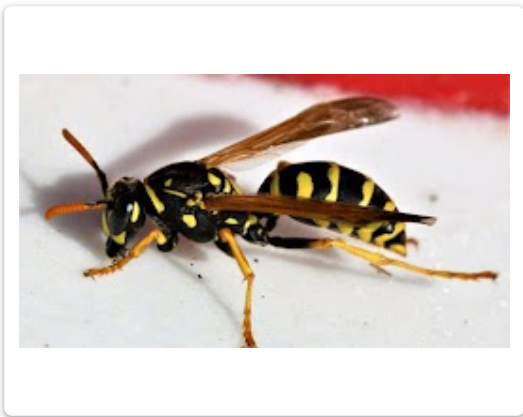
2.e) Which of these animals is a bee?



1



2



3

**2.f)** According to international research conducted in 2015-2016 (COlony LOSSes project), surveying about 18,500 beekeepers distributed throughout Europe, the average rate of disappearance of bee colonies was estimated as:

- Just 5% distributed on average throughout the Continent
- About 12%, with peaks of 30% in the countries of northern Europe
- Over 50%, causing a relevant economic impact on different production sectors

**3) Plants - How well do you know the relationship between plants and pollinators?**

**3.a)** Cross-pollination of plants is the activity in which pollen from a flower is transported to another one (to fertilize it). This transport can be done through various elements such as human beings, wind, water and even insects.

What is the correct word for the insects' pollination?

- Anemophilous pollination
- Hydrophilic pollination
- Entomophilic pollination
- Artificial pollination

**3.b)** Animal pollination is useful:

- Only for crops suitable for human consumption
- In general to agricultural production
- To agriculture but also to many wild plants
- To a limited number of both cultivated and wild plants

**3.c)** Plants have implemented mechanisms to be more attractive to pollinators. Which of these tools is most interesting to pollinating insects?

- Production of big fruits
- More voluminous and colorful flowers
- Jagged leaves with large surface
- Lower stem or trunk

**3.d)** What are the crops that most benefit from animal pollination in the world?

- Fruits, vegetables and oil crops
- Cereals, sugar crops, roots and tubers
- Roots and tubers, oil crops and nuts
- Spices, legumes and cereals

3.e) A good practice that can be implemented at home to encourage the presence of bees (and other pollinators) is certainly to grow plants appreciated by these animals. Could you identify some of the plants most appreciated by pollinators?



Basil



Lavander



Rose



Borage



Poplar



Purple





Jerusalem artichoke



Chives



Ivy



Rosemary

#### 4) Environment and sustainability - How important is the environment we live in?

4.a) Environmental conditions influence the presence of bees. What do you think are the main threats to these animals? Multiple answers can be indicated.

- Predators (animals)
- Low demand for honey on the market
- Air and water pollution
- Flowers with bad smells
- GMO crops
- Intensive agriculture and pesticides
- Scarcity of beekeepers
- Climate change

**5) Biomonitoring - Do you know Bologna Airport biomonitoring project?**

**5.a)** Bologna Airport is carrying out an environmental quality monitoring project through the introduction of beehives near the areas surrounding the airport. In this way, it will be possible to identify the level of polluting aerosol.

But how can bees act as indicators of environmental quality?

- Changing color in case of pollution
- By intercepting the pollutants they collect in the environment and concentrating them in the hive
- By secreting aromatic substances in the presence of toxic compounds
- By eating the contaminating particles of the air

**5.b)** Do you think that this is an interesting and useful project? Where 1 = Little interest and usefulness and 5 = Very interesting and useful.

- 1
- 2
- 3
- 4
- 5

**6) Opinions and perceptions - Feelings and perceptions about environmental issues and what are you doing in this field now?**

**6.a)** In your opinion, how important are bees for the environment? 1 = No importance and 5 = Maximum importance.

1

2

3

4

5

**6.b)** If bees disappeared, many foods may no longer be available, especially some fruits and vegetables. What would have been the effect on your eating habits? Where 1 = Virtually zero and 5 = Very high.

1

2

3

4

5

**6.c)** Bees' life is influenced by many factors, the most significant being the quality of the air and the habitats that surround them. Human activities can have a significant impact on these elements.

In your daily life, what do you do to contain the environmental impact?

	Yes	No	Sometimes
I prefer to use bicycle than a car	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do waste sorting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I buy Km0 food, when possible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I limit the use of insecticides / pesticides / herbicides	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
By taking care of the green elements all around me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I mainly use products that promise a low environmental impact	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use public transport (such as bus, train, ...)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I mainly prefer organic products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I avoid disposable products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use reusable shopping bags and other recycled materials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I try to limit the use of plastic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**6.d)** The world of bees got recently a strong media impact. Did you hear about it? For example, by reading newspaper articles or news on the internet, watching commercial videos to raise awareness on the subject, etc.

Yes

No

**6.e)** How do you behave in case of a close contact with a bee?

I run away

I get very agitated, making fast movements and shaking hands

I ignore it

I try to crush it

I try to catch it

I keep calm and make kind gestures

I try to understand if bee has some problems

I do not pay attention to the presence of bees

I run to get the insecticide

**6.f)** The disappearance of pollinators would have repercussion on various aspects of our daily life, from the production of fruit and vegetables to the maintenance of the biodiversity of the green mantle that covers the Earth. How much does this concern you? Where 1 = Not at all and 5 = Very worried.

1

2

3

4

5

### Socio-demographic information - Tell us a little about yourself

#### Gender

Male

Female

I prefer not to answer

#### Nationality

.....

#### City of residence (Province)

.....

Do you live in a rural or city area?

- Rural area
- City area

Education

- None
- Primary school
- High school diploma
- Bachelor's degree (three-year or master's degree)
- Post-graduate diploma (master, PhD)

Age

- From 18 to 24 years old
- From 25 to 34 years old
- From 35 to 50 years old
- From 51 to 64 years old
- Over 64 years old

Number of members who make up your family

.....

Number of children aged between 0 and 11 (if present in your family)

.....

Number of children aged between 12 and 17 (if present in your family)

Opzione 1

Number of children aged 18 or over (if present in your family)

.....

Employment status

Employed (full-term, short-term, ...)

Retired

Student

Housewife

Unemployed

Other



Please indicate the average monthly income of your household. It is requested not to include additional earnings (thirteenth, fourteenth, etc.) or extraordinary earnings (monthly productivity bonus, subsidies, etc.).

- More than 4.200€
- From 2.801 to 4.200€
- From 1.401 to 2.800€
- From 500 to 1.400€
- Under 500€
- I don't know
- I prefer not to answer

And if you're curious..

This interview is not a test and therefore you will not receive a score. If you are curious to know the correct answers, you can find them on Bologna airport website, in the Innovability section. Visit the website and discover other Bologna Airport sustainability and innovation initiatives.



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