

SCIENCE CAFÉ REPORT

“Pollinators: an essential resource at risk”

21st July 2018

Brihuega (Guadalajara)



1. INTRODUCTION AND CONTEXT

The bees and other pollinating insects have a crucial role in the ecosystems and the production of our food: almost one third part of what we eat depends on bees and almost the 90% of wild plants depends on insects for pollination and survival.

On the last years, the alarm about the decrease of pollinators has risen up. This situation has serious consequences on the future of our food. Some of the main factors that affect the disappearance of pollinators are the massive application of certain pesticides on extensive and/or conventional agriculture. Also, the existence of specific parasites of bees, as *Varroa* mite, that is the main destructive one; as well as its predator, *Vespa velutina* (Asian wasp).

The aim of this science café was to analyze the problems related to pollinators crisis. As we think it is important to solve the problem from different sectors of society, we invited a wide range of public: experts in the field (technicians and researchers), policy makers and general public (120 people in all).

Thanks to the collaboration of Brihuega council and the Botanical Garden of Alcalá, we could develop this science café in the castle of Brihuega. This town is the capital of La Alcarria, honeybee region par excellence, where the dependence on pollinators is especially important for the survival and economic growth.

The event took place on July because it is the time when the city is decorated with lavender handcrafts to celebrate the maximum splendour of its lavender fields. The bees of the region provide us with quality honey and many other products derived from its nutritive, medicinal and industrial benefits (royal jelly, pollen, propolis and wax).

OBJECTIVES

- To recognize the vital role that the bees and other pollinators have on the sustainable production of food and nutrition.
- To recognize the contribution that bees and other pollinators have on the ecosystems services.
- To analyse the urgent need of addressing the problem of biodiversity decrease of pollinators.
- To highlight the importance of honey for human feeding, the benefits and their derivate on diet, as well as the problems that threaten the existence of this product.
- To express the need of carry out respectful actions in relation to pollinators, especially in agriculture and gardening.
- To highlight the importance of citizens support on traditional agriculture.

2. AGENDA AND CONTENTS

Saturday 21st July 2018

Salón Noble, Castillo de la Peña Bermeja

Brihuega (Guadalajara)

11:00 am. Accreditations. Presentation of the science café and Big Picnic project.

HUMANS AND APICULTURE

11:30 am. **Historical synthesis of apiculture.** *Agustín Arias Martínez*, beekeeper and president of the Beekeeping Museum Network. It was explained the relationship between human and bees from the Palaeolithic to our days.

12:30 pm. **Honey, gastronomy, bromatology and nutrition.** *Daniel Martínez Maqueda* (IMIDRA). Food, nutritional and culinary aspects of honey and bee products.

13:15 pm. **Citizens and apiculture.** *Jesús Manzano Linares*, advisor of Greenpeace Spain. Promotion, dissemination and protection of beekeeping. Urban hives, the demand for recreational beekeeping, leisure and free time. Interaction networks between citizens and beekeepers, sponsorship, apitourism, co-working, parking of bees and other trends for the conservation of traditional beekeeping.

14:00 pm. Debate and lunch break

THE CRISIS OF POLLINATORS

15:30 pm. **Biological threats: diseases, parasites and predators.** *Lola Moreno Romero*, veterinarian of the Beekeeping Association of Guadalajara. Current status, control possibilities and expectations.

16:15 pm. **Anthropogenic threats: industrial agriculture.** *Luis Ferreirim*, responsible of the campaign 'Save the bees and the agriculture' (Greenpeace Spain). Industrial agriculture, a serious threat to pollinators. Current status and control possibilities.

17:15 pm. **The disappearance of pollinators, biodiversity crisis and human survival.** *Antonio Gómez Sal*, professor and researcher in Ecology at UAH. The disappearance of pollinators, biodiversity crisis and human survival. Impacts on the fauna and flora of the planet, on the global economy and on the horticultural crops that provide us with a varied, healthy, nutritious and rich diet.

17:45 pm. Debate, conclusions and recommendations

18:30 a 19:00 pm. HONEY TASTING

In the lavender market that took place during that week, various traditional beekeepings offered a honey tasting.

Complementary activities:

20:00 pm. Bus transfer from the council to the lavender distillery (guided visit).

20:45 pm. Bus transfer from the lavender distillery to the lavender field (guided visit).

22:00 pm. Bus transfer to Brihuega to enjoy the different activities of the lavender market.

22:30 pm. Concert of the music group VN (*Sebastián Durón*).

3. EVALUATION AND RESULTS

TBI QUESTIONS

- **What could or should we citizens do to alleviate the problem of disappearance of pollinators?**
- **What could or should professionals, beekeepers, farmers, researchers, traders, chefs do?**
- **What could or should local or national political leaders do?**

EVALUATION METHOD

- General Big Picnic survey
- Specific survey for this science café
- Face to face talks with attendees
- Observations

We would like to have a wide idea of what are the most important concerns for people in relation to the pollinators crisis.

SPECIFIC SURVEY – RESULTS

Below are the initiatives and proposals presented to the attendees. These proposals are clustered into three different groups: citizen’s actions / professional’s actions / political decisions.

QUESTIONS

What could or should we citizens do to alleviate the problem of the disappearance of pollinators?

1. To plant more flowers, shrubs and trees, so they have nectar and pollen all the year.
2. To promote areas with varied autochthonous plants in our garden or in our neighbourhood.
3. In our garden or in our neighbourhood distance the mowing of grasslands.
4. Decrease or request to reduce the use of herbicides, insecticides or Fungicides.
5. To consume local, organic and seasonal food, to promote a model of agriculture that stimulate, among other things, bees and other pollinators.
6. To enhance natural shelters for pollinators or to build artificial shelters.
7. To increase the consume of products of beehives (honey, pollen, propolis, royal jelly and wax) to support the apiarian sector.
8. To participate in supporting initiatives, like sponsor a beehive or others.
9. To disseminate about the importance of bees, the threats they face and the solutions.

What could or should professionals, beekeepers, farmers, researchers, traders, chefs do?

11. Farmers should change to organic farming or, at least, reduce considerably the use of pesticides and maintain natural vegetation areas between crops.
12. The owners of restaurants and canteens should buy organic, local and seasonal products, to favour the existence of bees and other pollinators.
13. In public or private parks or gardens it should be restricted the use of pesticides and the reduce of weeds, so that they can grow and feed pollinators.

What could or should local or national political leaders do?

15. To recognize the pollination as an agricultural contribution and to establish mechanisms of control of the state of pollinators.
16. To increase, both at national and international levels, the standards of regulation of pesticides.
17. To include the indirect and almost lethal effects (those that do not cause the mortality of pollinators, but can cause physiological effects or long-term behaviours) on the evaluation of risks of transgenic crops.
18. To promote the practices that support pollinators, as for instance, the management of the environment to provide food and refuge. To preserve and restore the green infrastructure – a network of habitats for pollinators to move – in agricultural and urban environments.
19. To develop incentives to help farmers get profit of the ecosystems services instead of agrochemicals.
20. To support the diversified crop systems. To incentivize and support the organic farming.
21. To finance the investigation that contributes to improve the outputs of organic, diversified farming.
22. To finance the investigation that contributes to knowledge and control of diseases of pollinators, especially bees.

ANSWERS

These are the answers to the previous statements:

Question number	I don't like	I don't care	I am not sure	I like
What could or should we do as citizens to alleviate the problem of the disappearance of pollinators?				
1	1	2	12	34
2		2	6	41
3	1	4	21	23
4		1	4	44
5			6	43
6	1	1	9	38
7	2	5	11	31
8	1	7	12	29
9			4	45
What could or should professionals, beekeepers, farmers, researchers, traders, chefs do?				

11		2	5	42
12	1	1	7	40
13	1		2	46
What could or should local or national political leaders do?				
15			2	47
16		1	3	45
17	1		7	41
18		1	4	44
19		1	7	41
20	1		4	44
21		1	6	42
22			5	44
Total number of surveys 49				

From the table above we can extract that for the attendees these are the most important measures (the ones marked on green):

9. To disseminate about the importance of bees, the threats they face and the solutions.
13. In public or private parks or gardens it should be restricted the use of pesticides and the reduce of weeds, so that they can grow and feed pollinators.
15. To recognize the pollination as an agricultural contribution and to establish mechanisms of control of the state of pollinators.
16. To increase, both at national and international levels, the standards of regulation of pesticides.

OUTCOMES SUMMARY

These are the most important patterns that emerged from the specific survey, the observations and the face to face talks:

- The importance of citizen´s participation to palliate the problem.
- The importance of dissemination and environmental education for engaging people in pollinators conservation.
- The need of increasing crops biodiversity and wild vegetation.
- The need of a pollinators conservation plan, as well as protective figures for pollinators.
- The possibility of an agrarian political and legislative change.
- People demand the increase of the organic beekeeping and agriculture.
- The need of economic support to improve honey products and other products related to them.
- To develop local and quality products (honey and other products).
- The need of investment in research.
- To avoid transhumance or regulate it, to prevent mite or microorganism infections.
- To reduce the use of pesticides.

4. CONCLUSIONS

The science café ended up with some worrying conclusions related to the serious threat of pollinators decrease, which not only affects apiculture and biodiversity, but that is also a direct threat to our food security. It is a problem that also effects on the ecosystem balance and other insects related to pollinators.

However, there is a hope of improve the situation. Thanks to events like this, we have the opportunity of knowing many reasons to act in order to protect pollinators. The science café has brought us the opportunity of knowing the situation and debate about it. We have realized that there is a real interest about the problem and many researchers and scientists are looking for solutions.

Moreover, it seems very clear that policy makers should take into account all these recommendations and ideas from the experts, and they should also provide economical support to traditional beekeeping.

Was the science café effective?

It was really useful to put in common the opinion of different social actors in relation to beekeeping. It was also an opportunity to bring people closer to a place dedicated to beekeeping and pollinators, in order to arise the value of this field.

Lessons learnt?

It has been a good idea that the event took place in Brihuega, as a hotspot of honey and its varieties and in the cultivation of aromatic-honey plants. It has allowed us to bring people closer to the importance of pollinators in a relaxed and beautiful place that is focused on the importance of the existence of bees and other pollinators.

It has been really useful to carry out the event during the lavender week of Brihuega, as it was the perfect context to debate about pollinators and the relationship with food and other products obtained from plants.