interactive content

20 May

World Bee Day

#Apiculture

Why are bees important for mankind?

For ensuring food security in the world

Bees and other pollinators are very important for human survival as they significantly contribute to the world's food security. One third of produced food in the world depends on pollination and bees play the most important role among the pollinators. Every third spoon of world food depends on pollination.

In addition, they also contribute to nutrition security with their highly nutritious products such as honey, royal jelly and pollen. Food products that depend on pollinators contribute to a healthy diet, providing rich source of essential nutrients.

For sustainable agriculture and jobs

With pollination, bees contribute to successful agricultural production.

Pollination-dependent crops are a major source of income for farmers, especially small and family farms in developing countries. They also provide jobs and income for millions of people. According to the international study conducted in 2016, between 192 and 472 billion euros (235 and 577 billion US dollars) of annual global food production is directly dependent on pollinators.

For the environment

Bees and other pollinators have positive effects on the entire ecosystem and help preserve biodiversity. Biodiversity is essential for preserving natural habitats and thus humanity itself. It provides food, fuel, oxygen, cleans water and air, stabilises weather and climate, increases the ability to adapt to changes, creates and renews soil fertility, detoxifies and breaks down waste products, and pollinates plants, including numerous crops; it suppresses pests and agricultural crop diseases, preserves genetic sources that are crucial for the development of new varieties, medicines and other products, and provides cultural and aesthetic benefits.

Bees are also a good biological indicator of environmental conditions. Through observation of their development and health status, we can detect changes in the environment and take prompt action. Failure to respond to such warnings can make the consequences even worse.

Are bees and other pollinators really at risk?

Bees are increasingly endangered. In Europe, extinction threatens nearly 10 % of all bee species. In 2016, the number of honey bee colonies decreased by as much as 33% in the United States and 13% in the European Union. The number of other pollinators worldwide is also in decline. The course of events is sometimes referred to as the "pollination crisis".

The main causes of bee endangerment are:

- diseases such as varroa, nosema disease and viral infections;
- a lack of food sources due to intensive agriculture (monoculture, frequent meadow mowing). Bees are thus provided with the necessary food only

for a short period in a year, which is also significantly less diverse than in the past;

- the use of pesticides in agriculture and their impact on pollinators;
- new pests that spread rapidly across the world due to globalisation;
- the growth of cities, which shrink habitats;
- a lack of nesting sites for wild pollinators;
- climate change.

Do you know that ...

- Honey bee (Apis mellifera) is just one of 20,000 types of bees that we know and one of the few that is used for production of honey.
- Bees pollinate as many as 170,000 species of plants.
- Fruits and vegetables would be much less abundant without bees and there would be no lovely floral colours dotting the meadows.
- Every third spoonful of food we eat is dependent on pollination.
- Bees and other pollinators significantly contribute to the world's food security. Pollination brings between 192 and 472 billion euros (235 and 577 billion US dollars) per year.
- One honey bee alone can produce 1/12 teaspoon of honey in its life.
- To make a kilogram of honey, a bee must visit four million flowers and fly four times the distance around the world.

#Pollinators

Why 20 May – World Bee Day and why Slovenia?

May is the month of bees. During this month, the development of bees in the northern hemisphere is in full swing; bee colonies swarm, which is their natural way of reproduction. Bees are the most numerous in May and the need for pollination is at its maximum. In the southern hemisphere, it is autumn, the time for harvesting bee products and thus the days and weeks of honey.

20 May is also the birthdate of Anton Janša (1734–1773), a pioneer of modern beekeeping and one of the greatest experts in this field in his day. He was the first teacher of modern beekeeping in the world, appointed by the Empress Maria Theresa as a permanent teacher at the new beekeeping school in Vienna. His appointment was also supported by the renowned beekeeping expert A. G. Schirach.

Anton Janša's contribution to the beginning of modern beekeeping is of paramount importance. It is collected in two books: Abhandlung vom Schwärmen der Bienen and Vollständige Lehre von der Bienenzucht.

He became famous even before his death in 1773. After 1775, all the state beekeeping teachers had to teach beekeeping according to his teachings.

His life and work are described in many books on beekeeping, including The World

of History of Beekeeping and Honey Hunting by Eve Craine, 1999.

Slovenians have always been a nation of beekeepers. With five beekeepers per 1,000 inhabitants, Slovenia is in the front ranks globally, and beekeeping is an important agricultural activity with a long tradition. Slovenian beekeepers are known worldwide for their professionalism and advanced beekeeping technologies, as well as unique Slovenian historical features, such as:

- painted beehive panels,
- apiaries and traditional beehives, and
- the famous Carniolan honey bee.

The Carniolan honey bee (Apis mellifera carnica), which is an indigenous Slovenian subspecies of honey bee and the second most widespread subspecies in the world, is part of the Slovenian national identity. Slovenia is the only country in the European Union that has protected its honey bee with legal means.

Do you know that ...

- A bee colony can be compared to a small city. It contains 30,000 to 60,000 bee workers, from 300 to 1,000 male broods, and the queen bee.
- The queen bee is the only member of the bee colony that lays eggs. She can produce up to 2,000 eggs in a day. Honey bees' wings flap 11,400 times per minute, which makes their distinctive buzz.
- The queen bee usually lives from 1 to 4 years, while the worker bees live from 6 to 8 weeks in summer and from 4 to 6 months in winter.
- Honey bees do not hibernate, but they gather together into winter clusters and thus warm themselves up. They remain active all winter long.
- Without a queen bee, the colony slowly dies out.
- If worker bees stopped feeding male broods, they would die of hunger.
- Honey bees are the only bee species that die after a sting.

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#WorldBeeDay

Key milestones in the proclamation of World Bee Day

Slovenia proposed that May 20 be declared World Bee Day before the UN. On 20 December 2017, after three years of international efforts, the United Nations Member States unanimously approved Slovenia's proposal and 20 May was proclaimed World Bee Day.

15 September 2014 – President of the Slovenian Beekeeping Association, Boštjan Noč, while listening to the radio, hits upon the idea of a World Bee Day.

26 September 2014 – Minister of Agriculture, Forestry and Food, Dejan Židan, supports the initiative in writing and pledges that the ministry will seek to implement the initiative on World Bee Day.

6 October 2014 – The President of the Republic of Slovenia, Borut Pahor, supports the idea of the World Bee Day.

2 April 2015 – The Government of the Republic of Slovenia supports the Slovenian Beekeeping Association's initiative.

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11 May 2015 – Slovenia's initiative is considered by the EU Council of Agriculture Ministers, with more than 20 countries supporting the initiative.

20 September 2015 – At the 44th International Congress in Daejeon, South Korea, the initiative is supported by the World Beekeeping Association Apimondia.

5 July 2017 – The FAO Conference in July 2017 adopts the decision to submit a resolution for deliberation and adoption by the UN General Assembly in New York.

20 December 2017 – The UN General Assembly in New York unanimously adopts a decision proclaiming 20 May World Bee Day.

Do you know that ...

- Bees live all around the world. Contrary to popular belief, most bees nest in tree holes, soil, hollow plant stems, walls, etc. In modern Europe most honey bees live in man-made beehives.
- Bees are very economical and rational construction workers in nature – honeycombs are among the most efficiently organised structures in nature; the honeycomb walls are joined at an angle of 120°, thus forming a complete hexagon.
- Bees leave the hive when outdoor temperature rises above 10° C (50° F).

#20May

10 things you can do for the bees

1. Plant or sow **honey plants** on balconies, terraces and gardens for decorative purposes.
2. **Set up a nesting box for bees** on your balcony, terrace or garden – you can do it yourself or buy it.
3. **Maintain flowering meadows** by using a greater variety of plants and by sowing honey plants in the meadows.
4. **Avoid mowing grass** during the peak flourishing of plants and mow grass in the evening hours.
5. **Allow beekeepers** to temporarily or permanently settle bees on my agricultural surfaces. The bees will thus have proper plants to feed on, which will be properly pollinated and will bear more fruit.
6. As regards spraying, use pesticides that are **harmless to bees** and spray plants

in **windless** weather conditions **early in the morning or late in the evening,** when bees are back to their hives.

7. **Mulch** flowering plants in orchards and vineyards **before spraying with pesticides,** in order to prevent them from attracting bees.
8. Raise children's and teenagers' awareness about importance of the bees.
9. Buy honey and other bee products from a local beekeeper.
10. Support beekeepers and attend events in support of bees.

Honey plants in our backyard

- Fruits and vegetables (fruit trees, tomatoes, peppers, pumpkins, blueberries, strawberries, etc.)
- Herbs: lavender, mint, rosemary, thyme, sage, oregano, melissa, basil, etc.
- Trees and shrubs: acacia, spruce, fir, linden, maple, rosacea, hazelnut, currant, and gooseberries, etc.
- Annual crops: sunflower, buckwheat, clover, oil turnip, facelia, etc.
- Perennial plants: snow-drops, primroses, meadow flowers, tassels, willows, hazelnuts, hawthorn, etc.

#SaveTheBees

Make your own nesting box in 5 steps

Nesting boxes for solitary bees may vary both in size and shape. The most important thing for bees is their nesting material, while the shape is more about our taste and space available.

1) **Choose a nesting material:** The nesting box for solitary bees can be made of wood (the most suitable is wood from deciduous trees), but hollow plant stems (bamboo, reed) can also be used. You can choose a combination of both.

2) **Drill holes in the wood:** In order to attract different species, the holes in the wood should be of different sizes, i.e. from 4 to 10 mm in diameter and up to 10 cm deep. A nesting box from bamboo or reed is made of stems cut to a size of at least 10 cm.

3) **Build the nesting box:** Give the wood the desired shape in such way that the holes are open to the outer side, in

order to provide access to the bees. The nesting box can have the shape of a house, a circle, or anything else. If the nesting box is outdoors, you should provide for a roof that will protect it from rain.

4) **Put up the nesting box:** The nesting box is usually put up in spring when most animal species are active. Place it or hang it on a sunny spot protected from rain (window shelf, garden shed, terrace, balcony, etc.). The optimal height is 1 to 2 meters above the ground, but also higher (for example, on the balcony); in this case the bee population will probably be lower.

5) **Attract bees with honey plants:** Ask in a seed shop for decorative honey plants and plant them in your garden. This will create a flowering environment and provide food for the bees.

Bees will settle by themselves. The first year there will not be many, but later on their number will increase. Solitary bees are wild animals and in a proper environment do not need any special care other than a safe nest.

Important: The nesting box must remain outside the whole year long, even in winter.

#ApisMellifera

Play with bees and get to know their world

Mobile game Dan čebel/Beeday

Transform yourself into a bee and start discovering the Slovenian cities, mountains and countryside. On this trip you will encounter many flowers, but also birds, trees, and Bled boatmen, who will try to obstruct you when visiting flowers. With fast fingers and as many flowers as you can visit, you have to bring the bee to the hive in order to be able to continue in the new location.

Download the game Beeday free of charge:
- Android smartphone: on Google Play
- IOS smartphone: on App Store

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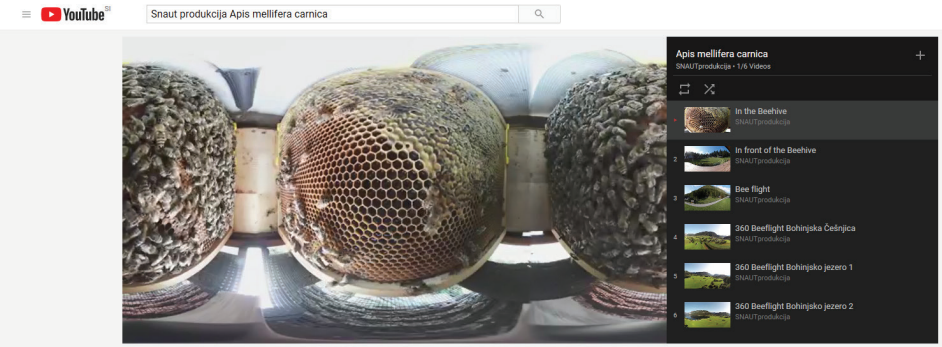
Virtual Reality

If you have virtual glasses, you can test the virtual reality of the flight of a bee. Movies in 3D format are installed on the Youtube channel. On the Youtube channel, you simply set a movie for playing in virtual glasses, and you can also fly like bees.

Available on:

www.worldbeeday.org/mobilne-vsebine.htm



Mobile education application on bees

Available on the App Store

Google play

Experience virtual reality by discovering interesting facts about bees, Slovenian beekeeping and Slovenia, and take a "selfie" with the indigenous Slovenian Carniolan honey bee!

How do you do it?

- Download "AR Bee World" free of charge on your phone or tablet.
- Launch the app and bring your screen closer to the photos in the leaflet. Interesting information and videos of bees will appear on the screen.
- Direct your phone (with the active application) to the World Bee Day logo on the leaflet – the Carniolan honey bee appears on the screen – and take a selfie.

Download the app AR Bee World:
- Android smartphone: on Google Play
- IOS smartphone: on the App Store

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SLOVENIAN BEEKEEPERS' ASSOCIATION

I FEEL SLOVENIA