

BEEKEEPING IN HUNGARY

When people who are working in the honey or beekeeping sector hear the name of Hungary, automatically think to acacia honey. The cause of this is the fact that Hungary produces the greatest quantity in Europe of one of the most known and appreciated monofloral honey – acacia. Hungary owns the 2/3 of the acacia forests of Europe and has an annual acacia honey production of 10-13 thousand tonnes. This light coloured, mild aromatic honey deservedly made Hungary famous. Or is it Hungary who made the acacia honey famous?

A little country – a great beekeeper nation! Argentina, who is the organiser of the 2011 Apimondia congress, is a 30 times bigger country than Hungary and produces only three times more honey than our country. The surface of Hungary is just 0,9 % of Europe's but we give 10% of the annual total honey production of the continent. Hungary gives his contribution (5%) to the 500 thousand tonnes of the world's honey trade. In Europe the bee density is 7 times higher than in the other parts of the world. Our country is on the second place concerning the bee colony density in Europe. These numbers speak for themselves.

The annual honey production is 25-30,000 tonnes. 80% of this production goes to export. The average annual internal honey consumption is 600 grams per head. This increases continually: 20 years ago was only 200 grams, 10 years ago 400 grams.

Besides the above mentioned numbers we can serve with several professional facts and points of interest which can be an example to be followed by the beekeepers of the rest of the world.

- An advisory network which is coordinated by the Hungarian Beekeepers Federation. In each county (there are 19 and the capital) a full time beekeeping advisor helps beekeepers in their everyday work and gives them support in order to be successful in applications.
- For more than 50 years a bee health network was established. Charged by the veterinary authority these beekeepers control all the bee colonies in their district, in order to screen the health situation. In our country American Foul Brood (AFB) is a disease which has to be reported to the authority. When AFB cases are observed, local quarantines are ordered, and samples are sent to specialized laboratories. In case when AFB is proven, beekeepers are compensated and their affected bee colonies are destroyed by fire in order to eliminate further contaminations. These strict rules had as a result the successful disease control in our country.
- Each beehive is equipped with an RFID (Radio Frequency Identification) tag which encodes an identification number. These tags which are hidden in beehives can help in protection and food safety matters as well.
- The beekeeping monitor network started his activity in 1959. In the past four decades in cooperation with the Research Institute for Animal Breeding and Nutrition (Research Group for Honeybee Breeding and Biology) in Gödöllő almost 100 beekeepers collected data about the climatic factors, blooming time and honey harvest results. This network is coordinated by the Hungarian Beekeepers Federation. In 2008 we started the reorganisation of this network by equipping the members of the network with meteorological data collectors. These climatic data appear online on the website of our

association providing important information to beekeepers especially during blooming time of acacia. This can help to better organise the transport of beehives, and in long terms may provide precious information for researchers in order to make useful forecasts about blooming periods and expected outputs.

- In order to popularize the honey consumption in 2004 the first Honey Knights Order was established. These days 6 of them are functioning in different places of the country. They appear in the honey fairs which are normally organized in autumn or winter, and they talk about the positive effects of honey on human health. For 16 years at the end of the beekeeping season an other important event is organised: on the first weekend of August a Honey Queen is elected. This should be a young lady who can speak foreign languages; and she has to have some connections to apiculture. Her duty is to promote Hungarian honey on TV, in newspapers, in schools and kindergartens.

In Hungary there are 15.000 beekeepers. According to statistical data 960,000 bee colonies are kept. The number of bee yards is decreasing contrarily the number of bee colonies shows a slight increase. There are more and more beekeepers with several hundreds of colonies. One of the biggest private beekeeping business of Europe (6500 hives) is situated in Hungary. The means of production are varied there's no uniform beehive or frame size. The most popular hive is the so called Nagybeczónádi which was first used in 1913 with 24 frames (size of the frame is 42x36 cms). The purpose of this hive is acacia honey production. In the hive beside the acacia blooming time two queens are working in the opposite side of the hive. Two weeks before the starting of the blooming (usually middle of May the acacia blooming time) the beekeeper removes from the hive the older queen and excludes the other one only for 3 frames. So the colony is becomes unnatural huge size. In the next two weeks 90% of the open brood are disappears. So when its blooming time, most of the worker bees are gathering acacia nectar (they do not have any job –like nursing). This is the most effect way to harvest the largest crop from the short blooming time of acacia.

Besides acacia Hungary has other important plants which are considerable in honey production: sunflower, rape and lime tree. The Carpathian Basin is rich in rivers and good quality soils, so the vegetation is more than sufficient for the high number of bee colonies. The beekeeping season starts in middle of April and lasts until the end of September. The honey producing months are May, June and July. In this short period most of the beekeepers are moving their colonies. Hungary is a relatively small country so bee hives transport takes only a few hours. Containers (moveable bee-house) are very popular in our country. These are special vans which can carry 40-60 beehives. This system can be very interesting for foreign beekeepers: hives are kept in three floors and an open corridor, which can be moved up or down, helps the work with bees.

The native bee variety is the Carniolan bee. This type which developed its characteristics during millions of years is well known by the beekeepers of the world. Its breeding is strictly controlled and only state approved queen breeders are allowed to carry out this work. There are 46 places in the country when Carniolan queen breeding is done.

This little country in the middle of Central-Europe by all means is worth to be seen by the beekeepers from the other parts of the world; here everyone can see interesting things and gain experience.

County	Apiaries (2009)	Colonies (2009)
<i>Bács-Kiskun</i>	1 368	105 490
<i>Baranya</i>	935	63 890
<i>Békés</i>	896	49 125
<i>Borsod-Abaúj-Zemplén</i>	1 352	72 592
<i>Budapest</i>	106	5 425
<i>Csongrád</i>	482	24 539
<i>Fejér</i>	346	34 314
<i>Győr-Moson-Sopron</i>	630	32 745
<i>Hajdú-Bihar</i>	897	44 852
<i>Heves</i>	590	27 645
<i>Jász-Nagykun-Szolnok</i>	881	45 066
<i>Komárom</i>	242	14 036
<i>Nógrád</i>	725	33 854
<i>Pest</i>	1 229	54 110
<i>Somogy</i>	1 410	86 475
<i>Szabolcs-Szatmár-Bereg</i>	1 418	82 793
<i>Tolna</i>	757	39 861
<i>Vas</i>	503	23 456
<i>Veszprém</i>	591	30 605
<i>Zala</i>	1 082	72 951
Altogether:	16 440	943 824

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Answers:

1. *What types breeds of honey bee do you have?*

Carniolan bee (*Apis mellifera carnica*)

2. *Have you heard of any other breeds that may be beneficial/harmful to your area?*

Yes: 11 person – 44 %

No: 14 person – 56 %

3. *How do bees contribute to your environment?*

The most important work of the bees is the pollination of the blooming trees and flowering plants in the field. The pollination of plant has a positive effect for the plants as well. The honey and by-products is important in medicine and in beauty.

4. *Do you know sufficient about the physiology of bees and their life for your work?*

16 people (64 %) have bee-vocational skills and acquire the basic knowledge of 9 (36%) people now. All of the participants claim to further trainings.

5. *What diseases have you experienced in bees in the last 5 years?*

In the last 5 years the following diseases occurred in:

- mite infestation (*Acarinosis apium*)
- spending calcification (*Ascospaeriosis*)
- nosema

6. *What remedies have you used?*

The treatment of diseases happened with various medicines, disinfection of hives and spraying of vinegar.

7. *What parasites have your bees suffered from in the last 5 years?*

Mite, mouse, shrew, wasps, ants, wax moth, death's-head moth (*Acherontia atropos*)

8. *What remedies have you used?*

Mite – fumigation

Narrow deserved of hive

With chemical and biological agents

9. *What other health problems have you heard of, or are concerned about?*

Black brood – *Morator aetatule*

American foul brood – *Histolysis infectiosa pernicosa larvarum*

Spending calcification – *Ascospaeriosis*

Nosema – *Nosema*

European brood – *Putrificatio polybacteritica larvarum*

10. *Do you have problems with other pests, i.e. birds, mice, etc., and what strategies do you use to alleviate this?*

Against of mouse and shrew – mouse grid, narrow deserved of hive (7 mm)

Against of birds – scarecrow, bird netting

11. *Do you rely on bees for reasons other than produce, i.e. pollination?*

According to the honey and by-products next to the event invitation pollination of fruit trees and pollination of field flowering plants (sunflower, rape).

12. *Do you sow special plants to attract bees to your garden/farm/orchard?*

Yes (13) – 52 %

No (12) – 48 %

13. *If so which ones?*

Willow, ivy, acacia, hazel-nut, sour cherry, lime.

Phacelia, milkweed, rape, sunflower, clovers, cucumber, pumpkin, sweet and water melon, evodia

14. *Do you use products from bees in your daily diet?*

Yes (23) – 92 %

No (2) – 8 %

15. *If so what and why?*

Honey:

- healthy physiological effects
- sugar replacement
- in case of sore throat
- health promotion

Propolis - healthy physiological effects

Pollen - healthy physiological effects

Royal Jelly - healthy physiological effects

16. Make a list of the benefits of bees in sustainable agriculture
Significantly yield increment through pollination.

17. Beekeepers: what do you consider as best practice in beekeeping (what you consider to the minimum level of care that beekeepers should do when looking after bees)?

1. To get basic theoretical and practical knowledge.
2. Participation in continuous training.
3. Organisation the moving bee colonies to the districts of bee pasture.
4. Treatment of honey and by-products.
5. Knowledge and treatment of main bee diseases.
6. Hygiene of hive, maintaining of resistance of bees.
7. Knowledge and keep observe of rules.
8. Market research, commerce.

Sources:

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