

History of beekeeping bees

SLOVAKIA

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Since times immemorial, bees and their products have been known on the territory of Slovakia. At first the bears used to steal honey from the wild bees living in the trunks of trees, but in 12th century bees began to be kept in households. Rational beekeeping actually started in the late 18th century and since then it has been integral part of modern agriculture. First union of Slovak beekeepers came into existence in 1869, but regional organizations were active from the year 1810. In 18th century first technical literature also in Slovak language has emerged, even we were a part of Austro-Hungarian monarchy, thanks to pioneer works of Fandly and Bernolak. In the year 1929 apiary in Liptovský Hradok, presently Beekeeping Research Institute has started to fill a role of scientific and edification institution. Among famous beekeeping experts and propagators of the 20th century belong Mr. Gasperik, Novacky, Hejtmanek, Cavojsky, Kresak, Macicka, Kepena, Hanko, Rekos, Milla, Svantner, Micieta, Silny, Labuda and many others. Antique hives, many of which are shaped into forms of saints, bears or other motives and painted, bee houses, wax presses and traditional equipment can still be admired today in the open-air beekeeping museums at Kralova pri Senci and Nitra.

Natural conditions of beekeeping

Motley and rich sources of bee forage allow efficient beekeeping in most areas, which totals 49,032 sq km (19,931 sq mi). The climate is moderate and does not exceed, even in the mountain regions, in hard winter, the limits bearable for beekeeping. As a rule, the spring comes as soon as early march and the sunny autumn extends until the end of October. Slovak honeys are usually mixed, but tasty unifloral honeys are produced as well, most wanted are dark forest honeys, wild raspberry and acacia honeys. Growth rates are dependent upon important nectar and pollen sources, such as willows, fruit trees, and most importantly, rape. At the end of this initial blossoming season the acacia begin blooming. In summertime pollen and nectar originate from clovers, sunflowers and seed crops. In the northern part of Slovakia the coniferous honeydew is found, especially on spruce and fir. This is the principal bee forage in highlands and mountainous parts of Slovakia. Other nectar sources in these places include bilberries, raspberries and meadow flowers, all of which are hardy in a cooler climate.

Breeding work

The most significant race of bees is the carniolan bee (*A.m. carnica*). This race is autochthonous in the territory of Slovakia, and is popular for good wintering, quick spring growth and calmness. The importation of other races of honeybees is not allowed. Throughout the country, there are 5 breeding and 30 multiplication stations, which has produced around 9 000 queens in the year 2002. Mostly they belong to Slovakian lines of carniolan bee (Kosicanka, Devincanka, Vigor, Vojnicanka, Tatranka, Gemercanka), but importation of some carniolan lines from neighbouring countries (Singer, Vucko, Sklenar, Troiseck) is visible within the last years. By

appropriate selection and breeding, breeders are determined to select bee colonies that are less inclined to swarm and shows inherent resistance against the Varroa mite. Artificial

insemination of queens is practised, but not very commonly – around 100 queens yearly.

Disease situation

Diseases and pests of bees and brood, mainly Varroa mite and American foulbrood disease, negatively affect the development of beekeeping. Varroa mite was first detected in 1978. Between 1978 and 1982 20,000 colonies were burnt up. Since 1983, when effective curatives were introduced, this disease has been controlled. We use the fumigation method with local Avartin fumigation strips (amitraz), preparations with pyrethroids (Gabon PA and PF) and formic acid (Formidol evaporating pads, Apiform solution). For foulbrood control we have several years used antibiotic treatment, which didn't bring expected lowering of disease points, such that only radical, with out using drugs, eradication of this disease by destroying of colonies is used from September 2002.

Utilisation of bee products

Part of the honey yield is used by beekeepers in their households or is sold directly to consumers. Further, several commercial companies purchase the honey, heft is exported subsequently, mainly to EC countries – the greatest demand is for honeydew and unifloral honeys. An alcoholic drink – mead, has increasing popularity on inland market, other industrial honey products are gingerbread, sweets, cereal bars, honey-filled chocolate, nuts with honey, honey cakes, honey sweetened drinks and other products. Pollen, royal jelly, propolis and bee venom are produced just on demand. Some amounts of cooled pollen for bumblebee rearing, propolis for disinfection's products and royal jelly for honey fortification are requested from buyers yearly. Legislation for honey quality is already harmonised with EC law and we are in prepare of national codex with even more rigorous criteria.

The hives and apiaries

Until recently many different types of hives were used in Slovakia. Currently there is a growing use of unified types of hives. Most common frame sizes are 420 x 275 mm (local name Tatran or "B") and 370 x 300 mm (so called Czechoslovak). The hives have double walls. Multi-storey hives of Langstroth or Dadant type are increasingly popular, but not such widespread as in other countries of this region. Commercially oriented beekeepers that keep their colonies in bee yards or in mobile trucks engage in migratory beekeeping. Colonies are fairly equally distributed throughout the country, which enables good pollination of cultivated and wild plants and thus it is not necessary for beekeepers to migrate to fruit plantations or larger crops of rape and sunflower. Today, beekeepers mostly transport their bees to acacia plantations and late fir and spruce forest forage.

Beekeeping organizations, research and education

In 1869 the first beekeeper's organization in the territory of Slovakia, The Slovak Association of Beekeepers in Upper Hungary, was created. After many organizational changes, beekeepers today are organized into the Slovak Association of Beekeepers (about 90% of organized apiarists), and, since October 1990, also into the Association of

In the north of our country, in a small town called Liptovský Hradok, is situated the Institute of Beekeeping, part of the Research Institute of Animal Production in Nitra. The institute in Hradok is not very large, yet they employ workers of all specialized categories. Together with the University of Agriculture in Nitra and the University of veterinary medicine in Kosice, this institute coordinates the plans, research activities, insemination of queens, and other selected beekeeping programs.

Slovak Academy of Sciences in Bratislava is involved in big international programme dealing with gene mapping of honeybee. Beekeeping section at the Slovak Agricultural University in Nitra is ensuring teaching of subjects Beekeeping and Pollination of entomophilous flora for regular students and in specialised courses for public.

Current status of beekeeping

In the last few years the clear trend has been a reduction in the number of European bee colonies. Causes include economic factors, the worsening environment, and health problems of the bees. An analogous situation exists in Slovakia. Today the number of colonies is around 250,000, while as recently as 1989 the number was 430,100. During the transition period since the "Velvet Revolution" in 1989, more than 20,000 beekeepers have stopped-keeping bees as a hobby. Current status is about 18,000 beekeepers, keeping an average of 11 colonies each. We have about 7.5 bee colonies per sq km; the long-term average annual yield is 12-15 kg of honey per colony. However, top yields can be higher than 80 kg per colony. In contrast to the density of bee colonies, consumption of honey in Slovakia represents only 0.25 kg per capita. Paradoxically, although Slovakia has relatively few bee colonies, a part of production has to be exported. Between 1,500-2,000 metric tons of honey, representing 1/3 -1/2 of the total honey yields is exported from Slovakia annually. Slovak apiarists are nowadays facing some problems linked with changes in governmental support and adopting EC policy, the rapid rise of incomes, the disinterest of youngsters in beekeeping and disease situation. Nevertheless, we are sure that the status of beekeeping here will be getting better in a short time.