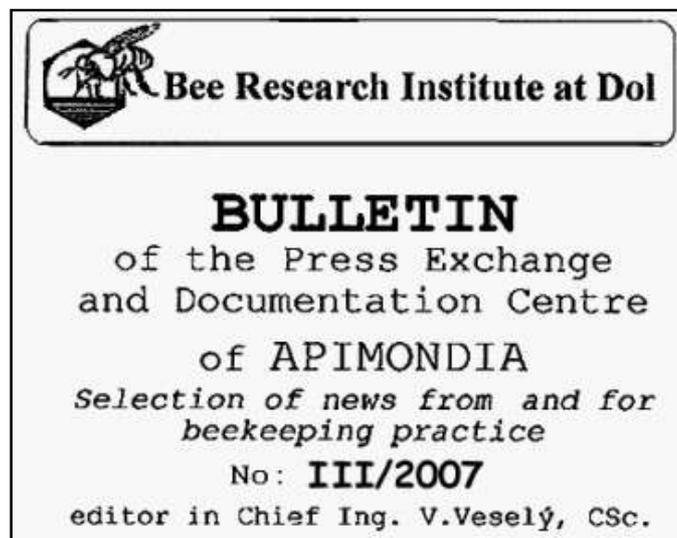


Bi-NyhetsBrev

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638.1.002

Fischer, J: **March: bees and beekeeper become again active.** *Die Biene*, 2007, 3, 4-6. - 6 fig.

March is the last time for cleansing flight. After this flight the first inspection is to be done. If weather is mild bees carry pollen and water. In the bee colony radical change sets in. The most important inspection concerns the stores. One box colony is still to be provided with 6 kg, two boxes colony is to have 10 kg winter stores. If there are no stores so it is necessary to feed ready siraps. Candy shall not be used, because bees need water. Stimulation feeding is not recommended. Sick and weak colonies should be carefully watched. If nosema or dysentery is found bees are destroyed by sulphur application. Queen loss and weak colonies are united. American foulbrood and even susception of it is to be registered. Watering places are arranged on sunny, warm windless localities. March is also the month for the propagation of bee plants. But attention is to be paid also to wild bees.

595.42A

Münstedt, K: **Are energetic stickers able to support bees in the repulsion of Varroa mites?** *Die Biene*, 2007, 3, 14-215.- 1 fig.

A new preparation for the control of Varroa mite is on the market. It is an energetic waterproof sticker which is fixed on all sides of a hive, as well as on the lid and the bottom. The sticker costs 10 EURO, a hive needs then 60 EURO. To sum up the presented theoretical analysis of the preparation for the treatment UM (Implemented Metaphysics) the author stresses the absence of scientific assessment of the applied sticker. It is denied that the method UM may be declared a rational method for the control of Varroa mite.

581.162.3

Lankinen, A - Hellariegel, B - Bernasconi, G; **Sexual conflict over floral receptivity.** *Evolution*, 2006, 12, 2454-2465. - 4 fig., many ref.

Examination of the potential for the evolution of pollen borne wilting substance and for the coevolution of a defence strategy by the recipient plant. The evolutionary stable strategy value is highest when pollinator visiting rates are intermediate and when the probability that pollen from several donors arrives at the same time is low. It is assumed that pollen receiving plants can reduce the costs induced by toxic pollen by delaying the onset of stigma receptivity. Pollen deposition induces wilting and receptive structures often delay maturation schedules. Sexual antagonism over remating may be taxonomically more widespread.

638.114.4

Diwold, L: **Migratory beekeeping in blessed milkthistle fields.** *Bienenaktuell*, 2007, 3, 16-17. - 4 fig.

Seeds of the blessed milkweed are used in the medicine to preparations for liver strengthening. This is the reason for the cultivation of this plant on an area of more than 1000 ha in the region Waldviertel in Austria. July 1 transport of 6 bee colonies on a distance of 150 km was done to a place in the milk thistle field 15 ha. After four weeks the author came to harvest honey and to bring hives home. The yield was 150 kg milk thistle honey. Though the region near hives only milk thistle offered, the honey indicated in the pollen analysis pollen of other plants. The honey received the label Flower honey with blessed milk thistle share. The honey has aroma taste and is liquid for about three months.

638.132.1

Langmeyer, G: **Nectar, raw substance of the honey and attractivity substance for bees.** *Bienenaktuell*, 2007, 3, 14-15. - 2 fig.

Nectar is the most important primary product for the honey. Nectar as well as pollen and fat oils is nutrition for bees. Nectar consists of 50 to 80% water and diluted simple sugars (mostly glucosis and fructosis). Nectar oils, aroma substances and proteins are in small quantities. In principle they are aminoacids, organic acids and phosphates, vitamins and enzymes. The nectar production is easier for plants than

production of protein rich pollen. Flower forms are very various and on all possible plant parts nectaria are found. Floral nectaria are in flowers, extra floral nectaria on leaves, leaf axles and stalk. Nectar secretion is determined by vessel pressure, size of nectaria and supplying vessels, age of flowers, water supply, air humidity and temperature. At the increase of all values nectar production becomes higher. If there is air and soil humidity shortage nectar is sugar richer. Many plants release more nectar in certain times. Bees record it and fly to the plant at certain hours.

582.757.23A

Pfunder, M - Roy, BA: **Fungal pseudoflowers can influence the fecundity of insect-pollinated flowers on Euphorbia cyparissias.**

Botanica Helvetica, 2006, 149-158. - 1 fig., 1 tab., many ref.

Infected *Euphorbia cyparissias* infected by a rust fungus *Uromyces pini* does not form flowers but pseudo flowers, rosettes of yellow leaves upon which the fungus presents gametes in a sweet smelling gary nectar. Insects feed on the nectar and transfer fungal gametes between mating types. The fungus and its host share insect visitors it is assumed that they might interact by facilitating each others' insect visits or by competing for pollinators. The seed set of uninfected *Euphorbia* plants was considerably higher when they were surrounded by fewer pseudo flowers. The reproductive success of single pseudo flowers decreased with a higher density of pseudo flower-neighbours. The fungus might be a competition pollinator.

615.777

Titěra, D: **Disinfection in the beekeeping.** *Včelařství*, 2007, 4, 92-93. - 2 fig., 1 tab.

The quality of bee products in bee colonies is flawless. The human manipulation may do the quality worse. At the destruction of unrequired organisms we have to achieve sufficient efficacy. The disinfection must not result in unrequired rests of active substances. Fighting viruses is based on the application of drought, warm temperature, cleaning chemicals and on varroa mites control. Control of bacteria is mainly established by burning, charring is not sufficient. *Paenibacillus* larvae larvae control if temperature 120°C is applied, is to last 4 hours, if 135°C the application time are 2 hours, if 150°C 20 minutes, if 160°C 5 minutes at least. Effective chemical control is hot (80°C) solution of soda lye or potash lye in 5% concentration. Cold lye is not effective. AFB bacteria in beeswax are destroyed by long termed warming without water (some hours to 130°C), but there occur changes in the beeswax composition.

638.178.B

Hegazi, AG: **Propolis, position and biological activity.** *Honeybee Science*, 2006, 2, 71-80. - 4 fig., 6 tab., 11 ref.

Propolis as a hive product has been long used as a medicament in folk medicine. Egypt has a long tradition and so it is natural that Egyptian propolis is attractive for biologists and chemists. Egyptian propolis was evaluated as immunostimulant,

antioxidant, antitumor, antiviral, antibacterial and antifungal agents. The chemical composition of Egyptian propolis is considerably various.

595.799

Takahashi, JI: **The ecology of the giant honeybees *Apis dorsata* and *Apis laboriosa*.** *Honeybee Science*, 2006, 2, 83-92, - 4 fig., 4 tab., 17 ref.

Both honeybees are in the group *Migapis* belonging to the genus *Apis*. *Apis dorsata* is widespread species occurring from India in west to Indonesia in east with temporary introduction population in Japan. *Apis laboriosa* is restricted to Himalayan region, These honeybees are large, have large nests and seasonal migration for the survival. The nest is built around the a tall tree branch and a stratum of dense bushes. The nest structure of both species is very similar. The number of mating of a *A. dorsata* were about 54 and 34 at *Apis laboriosa*. The location of drone congregation area of *Apis laboriosa* is unknown. The enemies of giant bees are wax moths, mites, birds, tigers and humans. Mites *Tropilaelaps clareae* and *Tropilaelaps koenigerum* are associated with *Apis dorsata*.

638.157 *Aethina tumida*

de Guzman,LL - Frake, AM: **Observations on the life history of small hive beetles.** *American Bee Journal*, 2007, 5, 437. - + tab.

The duration of each developmental stage of small hive beetle was affected by temperature. Developmental time was accelerated when larvae were exposed to 34°, while exposure to 24-28° slowed their development. Beetles kept in the incubator took about 23 days to develop from egg to adult. A total development period of ca. 39 days was observed in room temperature. Each beetle spent 75 % of its developmental time in the soil. Temperature may significantly influence the abundance and the impact of small hive beetle on honeybee colonies. High temperature accelerates reproductive ability and developmental rate of the small hive beetle, resulting in an increased population that may damage honeybee colonies.

634.55

Ferrari, TE - Cobb, AB: **One colony with supplemental pollination is better than two without extra pollen: case history.** *American Bee Journal*, 2007, 5, 439. - 1 tab.

Supplemental pollination is the application of compatible pollen directly onto bees using a dispenser located at the hive entrance. During the 2002 to 2006 bloom periods the new pollen application strategies were used in thirteen almond orchards. Pollen doses ranged from 100 to 200 million viable pollen/acre and pollen was 100% compatible with targeted flower pistils. All orchards exposed to enpollinated foragers had increased yield ratios. Statistically significant changes were achieved in 9 cases. Evidence indicates it is feasible to improve almond yields while reducing colony numbers. This can mitigate demand and annual rental costs.

638.15-07

Edgewood Chemical biological center: **Scientists identify pathogens that may be causing global honey-bee deaths**, *www.ecbc.army.mil*, 23 April 2007, 1 page

A team of scientists of ECBC and University of California San Francisco have identified potential culprit of Colony Collapse Disorder (CCD). They use technology called Integrated Virus Detection System and in middle of April isolated the presence of viral and parasitic pathogens that may be contributing to the disease CCD. Confirmation testing was conducted at the University of California and the results were presented to a United States Department of Agriculture working group. About 50 percent of hives have disappeared and next steps in the bee colonies protection should be considered.

582.657.24A

Cawoy, V - Deblauwe, V - Halbrecht, B et al.: **Morph differences and honeybee morph preference in the distylous species *Fagopyrum esculentum* Moench**. *Int.J. Plant Sci.*, 2006, 4, 853-861, - 4 fig., 4 tab.

Low reproductive success of buckwheat is poorly understood. The study covered the reproductive biology of buckwheat under controlled conditions in growth rooms and in the field in central Belgium in order to determine whether floral morph and pollination events may effect its reproductive success. Thrum flowers produced larger and fewer pollen grains and secreted more nectar, with a higher proportion of sucrose than pin flowers. Thrum flowers in the field were preferentially visited by honeybees, but fewer pollen grains were deposited on their stigmas. There was no difference between the two morphs in numbers of pollen tubes growing in styles, in seed set, seed weight. Seed set was low under field conditions and did not increase after hand cross-pollination. Factors other than floral morphs or pollination event were growing female fertility in buckwheat.

582.734.3F

Jacquemart, AI - Michotte van der AA, A - Raspe, O.: **Compatibility and pollination efficiency tests on *Pyrus communis* L. cv. Conference**. *Journal of Horticultural Science and Biotechnology*, 2006, 5, 837-830. - 2 tab., many ref.

Examining pollen tube growth, a histological technique is a reliable and rapid estimation of pollination quality. Intra- and inter cultivar compatibility was tested by hand pollination with "Conference" or "Doyenné" pollen. In intra-cultivar pollinated flowers limited pollen tube growth and large callose plugs were observed. This cultivar was considered self-incompatible. As insect pollinators deposit variable quantities and mixtures of intra-cultivar (incompatible) and inter-cultivar (compatible) pollen grains, their relative efficiency may differ greatly. The pollination efficiencies of *Apis mellifera* and of *Bombus terrestris* were compared by examining pollen deposition and pollen tube growth following single floral visits. Bumblebees deposited higher quantities of more compatible pollen grains per stigma than honeybees. There was no difference in pollen tube growth between these two bees.

582.657.24A

Jacquemart, AL - Gillet, C - Cawoy, V : **Floral visitors and importance of honey bee on buckwheat (*Fagopyrum esculentum* Moench) in central Belgium.** *Journal of Horticultural Science and Biotechnology*, 2007, 1, 104-108. - 4 tab., many ref.

During July and September 2001 and 2002 visitors to buckwheat were observed. 49 different insect species belonging to 18 families were recorded. Principal visitors were species from the orders Diptera and Hymenoptera. Hymenoptera were mostly represented by honeybees *Apis mellifera* in the range between 18,5 - 51,8 % of total visitors. Diptera were represented by syrphid flies and other families. Variation in the visitor guild occurred at the beginning and the end of both summers. The quantities of honeybees were significantly higher in July than in September. Honeybees are the most numerous visitors. Honeybee pollination was adequate as these insects deposited compatible pollen on a majority (in 90 to 93%) of flowers without respect between floral morphs.

638.121 591.342

Babendreier, D - Kalberer, N - Romeis, J et al.: **Pollen consumption in honey bee larvae a step forward in the risk assessment of transgenic plants.** *Apidologie*, 2004, 293-300.- 3 fig.

Report on the experiments that were conducted with small bee colonies kept on field cages (8 x 14 m) containing only flowering maize plants as protein source. Fully grown worker bee larvae were found to contain between 1720 and 2310 maize pollen grains in their gut before defecation, corresponding to 1,52 - 2,04 mg of pollen consumed per larva. On average, 74,5 % of pollen grains were completely digested while 23,3 % were partly digested and 2,2 % remained undigested. The contribution of the protein by directly feeding larvae with pollen is less than 5 % in relation to the total amount of protein necessary for complete larval development. The measurement data for pollen consumption should be taken into account at the establishing dose regimes to assess the risk that transgenic plants pose for honey bee larvae.

638.165.873.9F

Kenjeric, D - Mandic, L - Primorac, L et al.: **Flavonoid profile of Robinia honeys produced in Croatia.** *Food Chemistry*, 2007, 683-690. - 3 fig., 3 tab., many ref.

Results of analyses of specific pollen content, selected physicochemical parameters and flavonoid profile of 40 Croatian Robinia honeys from two production seasons. A good compliance was found with national and international regulatory requirements as well as with values typical for Robinia monofloral honey. Flavonoid content was different for two seasons. Rates of individual compounds remained unchanged. Higher flavonoid concentration was found in sample produced during dry season with high temperatures.

591.432.3A

Babendreier, D - Kalberer, NM . Romeis, NM et al.: **Influence of Bt.transgenic pollen, Bt-toxin and protease inhibitor /SBTI) ingestion on development of the**

hypopharyngeal glands in honeybees. *Apidologie*, 2005, 585-594. - 2 fig., many ref.

The risks of transgenic crops for honeybee colonies were assessed on the base of the development of hypopharyngeal glands of adult workers. 50 newly emerged adult bees were put into small queenright colonies of circa 259 bees. Bees were fed either Bt-transgenic maize pollen or a sugar solution containing either purified Bt-toxin or Kunitz soybean trypsin inhibitor at the concentrations 0,1% and 1%w/v. Neither Bt maize pollen nor the Bt toxin showed any effect on bee survival or on the development of hypopharyngeal glands after a period of 10 days feeding. On the contrary, treatment of newly emerged bees with SBTI 0,1% and 1% for ten days significantly reduced the mean weights of the hypopharyngeal glands.

582.657.24A

Quinet, M - Cawoy, V - Lefevre, I et al.: **Inflorescence structure and control of flowering time and duration by light in buckwheat (*Fagopyrum esculentum* Moench).** *Journal of Experimental Botany*, 2004, 402, 1509-1517. - 5 fig., 1 tab.

Buckwheat, pseudocereal which has a short vegetative period is not susceptible to most cereal diseases, its seeds contain proteins rich in lysine. Its honey has several obvious appealing properties. Studies on the genesis of the reproductive structures in buckwheat show that flower initiation was most usually advanced by short days compared with long days, but the mechanism responsible for the protracted flowering period remain to be explained. The present study describes the initiation process of the reproductive structures of a European buckwheat variety "La Harpe". Duration of the flowering period was unaffected by light irradiance in short days but, under long days conditions it was lengthened when light irradiance was higher. Processes in flowering are genetically determined and are under influence of environmental factors. Physiological studies are to be based that both two buckwheat morphs may be gathered together.

638.157

Hood, WM - Nolan, M: **A comparison of two small hive beetle attractants inside honey bee colonies.** *American Bee Journal*, 2007, 5, 440.

Report on field tests of a comparison of two SHB attractants, cider vinegar and a USDA yeast based product. The two materials were placed inside the Hood Beetle Trap, one way beetle trap that can be fastened by two screws to a hive frame bottom bar and placed in the top or bottom of a hive depending on season and small hive beetle activity. The USDA yeast based attractant proved to be a more stable material than cider vinegar, which had a tendency to evaporate quickly in hot weather. Test colonies having traps with no attractant had more small hive beetles than test colonies having either attractant in July and August. The trapping efforts resulted in maintaining a lower beetle population in the critical period.

576.858

Ostiguy, N - Cox Foster, D - Kalkstein A et al.: **The continuing story of honey bee viruses.** *American Bee Journal*. 2007, 5, 441. - 2 fig.

2004 in colonies with elevated prevalence of deformed wing virus frequent colony self-replacement of queen was observed. In two following years colonies were established with packages and queens were marked. Colonies were inspected for disease and presence of queen. No associations were observed between self-requeening and the number of mites, presence of eggs or year. A significant correlation was observed between colony self replacement of queens and prevalence of deformed wing virus. When deformed wing virus prevalence was over 80 % colonies replaced their queen two or more times. Self-replacement of queens in August was only in colonies with the highest deformed wing viruses.

638.178.B

Fischer, G - Conceicao, FR - Leite, FPL et al.: **Immunomodulation produced by a green propolis extract on humoral and cellular responses of mice immunized with SuHV-1.** *Vaccine*, 2007, 1250-1256. - 3 fig.

The present work evaluates the adjuvant capacity of an ethanol extract of green propolis associated to inactivated Suid herpesvirus type-1 (SuHV-1) vaccine preparations. Mice inoculated with such vaccine preparation plus aluminium hydroxide and mg/dose of propolis extract presented higher levels of antibodies when compared to animals that received the same vaccine without propolis. The effect of great propolis extract on the humoral and cellular immune response may be exploited for the development of effective vaccines.

638.12

Gritsch, H: **Fotobuch. Keine Angst vor Bienen. Picture Book. No fear of bees.** *Publisher Heinrich Gritsch, Pirchetweg 10 A-6424 Silz, 2007. 180 pages, about 371 colour photos*

Short texts in German and in English as explanation to the published pictures of 40 photographers. It is devoted to broad public and is to win people for the understanding the nature and honeybees without fear. The fascinating book is about the less known life of bees and about their products and about beekeeping in general and in details. The content, e.g., includes pupils visiting a beekeeper. The author is a teacher and simultaneously a beekeeper for 30 years. Pictures cover among others also enemies of bees and bee plants. Traditional beekeeping is completed by the present apiculture. The author is an Apimondia gold medal winner for his book *Beekeeping in the Mountains*.

638.124.252

Fischer, J: **May, swarming, desire of bees, frustration for beekeepers.** *Die Biene*, 2007, 5, 4-6.- 8 fig.

The checking of swarming is to be done all 8 days at latest. This is based on the development cycle of a queen (3 days egg, 5 days open larvae stage, then sealing). All queen cells should be removed. Only one non discovered swarm cell is the reason for a swarm flight. On the old bottom there is placed a honey chamber or an empty box with combs or foundations and a brood comb with youngest brood. If necessary young bees are added. An inter bottom with open entrance comes on the

honey chamber, and then the present brood chambers. Queen cells are to be broken out. Flight bees leave the brood chambers and fly through the accustomed entrance to the below standing Flugling. It is without queen and therefore queen cells there appear. In the brood chamber the swarm fever ceases because of the missing flight bees. In many cases the open queen cells are carried away by worker bees. After about 10 to 11 days after the treatment the parts of the colony are again re-united. But before queen cells are to be removed. As far as drones are at disposal in bee colonies the bee rearing may be started. A simple rearing method is formation of colony nucleus. In May honey chamber is to be offered, bee colonies are to be widened, drone brood is to be removed, swarm control, rearing, formation of nucleuses to be done.

638.14.06 (73)

USDA-NASS: **United States 2006 Honey Production Down 11 Percent.** *American Bee Journal*, 2007, 4, 287, - 2 tab.

There were 2,392 000 honey bee colonies, yield per colony 64,7 pounds, honey production was 154 846 pounds, average price per pound was 104,2 cents. The value of the total production was 161 314 000 USD. Honey prices are up 14 percent in comparison with year 2005. Producer honey stocks were 60,5 million pounds on December 15, 2006. Statistics cover producers with 5 or more honey bee colonies.

638.162

Hayes, J: **Toxic honey.** *American Bee Journal*, 2007, 4, 291. Yellow jessamine (*Gelsemium sempervirens*) can be toxic to bees. If there are large numbers of these flowers to forage on a noticeable colony impact may be noted. Another plant with toxic nectar and pollen in Florida is summer Titi. Nurse bees feeding the brood by summer titi nectar and pollen kill it. Other plants with toxic nectar and pollen are mountain laurel, Tansy ragwort, Egyptian henbane, rhododendrons. The toxic honey is not a general problem because the area covered by toxic plants is not big. For a long time - 25 years - there have been no reported cases of toxic honey in the United States.

595.782

Goodman, R: **Bee Pests: Wax Moth.** *Australian Bee Journal*, 2007, 4, 16-22.- 3 fig.

Greater wax moth (*Galleria mellonella*) larvae can quickly destroy stored beeswax combs. For more than 15 years is the control of this pest by the application of para dichlorbenzene in Australia banned for use in the apiculture. But residues of this chemical were nevertheless found and detected. Female moths usually lay 300 to 600 eggs in clusters on comb or in small cracks in the hive, The eggs hatch within 3 - 5 days at the temperature from 29 °C to 35 °C. If the weather is colder the hatching is delayed. Wax moth larvae at cooler temperature or when starving the larval period may extend to 5 months. At the temperature of about 32°C larvae reach full development about 19 days after hatching. After spinning the cocoon, the larvae commences the pupal stage which lasts about 14 days. Wax moths attack combs left unattended by bees as well as weak colonies with low numbers of adult bees. Wax

moths partly remove the cell caps resulting in bald brood. A minor problem is galleriasis when bees are unable to emerge from their cells and bees are trapped by silken threads produced by greater wax moth larvae, tunnelling at the base of the cells. Adult wax moths may deposit their eggs in the external cracks and joints of stacked supers of combs. Wax moth grow well on a diet of fresh or dried pollen. Adult wax moths may lay their eggs whenever pollen is exposed. Clean beeswax and foundations are not readily subject to wax moth attack. The winter temperature prevents or minimise the incidence of wax moth. All life cycle stages of the wax moth are killed by freezing (-6,7°C at 4,5 hours, - 12,2 °C at 3 hours, -15,0°C at 2 hours). Other control treatments include among others carbon dioxide in an airtight room, application of Phostoxin, biological insecticide. The Lesser wax moth is not normally comb feeder.

77

Gritsch, H: **Keine Angst vor Bienen. No fear of bees.** *Silz, Gritsch Publisher, 2007, 180 pages, about 400 pictures*

A bilingual picture book with very short texts in German and English. Individual chapters cover the activities of honeybees, from nectar to honey, bees in the forest, bees as architects and mathematicians, breeding of bees, scent and luminosity, Varroa mite infestation, flowers for bees, traditional and present beekeeping. The reviewed book gives many impressions of apiculture all around the world. 40 photographers contributed their masterpieces to the author's work. All published reviews evaluate the picture book as highly appreciated story of the fascinating world of bees, honey and traditional and present beekeeping. The book is well suited to school and library and is not only a specialist book of information but also serves as a source for browse and joy. The book should be also involved in youth beekeeping education.

638.155.B

Sabugosa Madeira, B - Abreu, I - Cunha, M: **Bt transgenic maize pollen and the silent poisoning of the hive.** *Journal of Apicultura Research, 2007, 1, 57-58. - 6 ref.*

It has been claimed that Bt transgenic pollen could be used to control moths in beehives and it has been recommended to use as a bio-pesticide. But authors of the present contribution disagree. Maize pollen may be 90 % of dietary pollen, one of the last sources of pollen before wintertime. Bees are not affected when they ingest Bt transgenic pollen. But such Bt pollen can cause total mortality of moth larvae that feed on old and contaminated beeswax. The increase and spread of transgenic crops may endanger hygienic importance of moths that remove old wax a potential dispersal of bacterial and viral disease.

591.5

Gabriel, D - Tschardtke, T: **Insect pollinated plants benefit from organic farming.** *Agriculture, Ecosystems and Environment, 2007, 43-48. - 2 fig., 1 tab., many ref.*

Organic farming is predicted to enhance diversity in the agroecosystems. The relative number of insect pollinated species was really higher in organic than in conventional

fields and higher at the field edge than in field centre. But the relative number of non insect pollinated species was higher in conventional fields and in field centre. 85 species occurred in organic fields and 56 species in conventional fields. The disruption of plant-pollinator due to agricultural intensification may cause shifts in plant community structure.

595.42A

De Guzman, L - Rinderer, TE - Frake, AM: **Growth of Varroa destructor (Acari: Varroidae) populations in Russian honey bee (Hymenoptera: Apidae) colonies.** *nn. Entomol. Soc. Am., 2007, 2, 187-195. - 7 fig., many ref.*

Some honey bee stocks are able to resist mite attack. Russian honey bees regulate the growth of varroa populations. The study shows that there was no single resistance mechanism to varroa mites in the Russian honey bees. Less attractiveness of both worker and drone brood, less reproduction of mites and extended phoretic period for the mites may influence mite growth. These factors obviously act in concert and can cause inhibition of varroa mite population growth. Selection improved the resistance of the Russian bees during the years.

547.722.5

Lopez, MI - Feldlaufer, MF - Williams, AD et al.: **Determination and confirmation of nitrofurans residues in honey using LC-MS/MS.** *Journal of Agricultural and Food Chemistry, 2007, 4, 1103-1108. - 3 fig., 3 tab., 10 ref.*

The described method complies with the performance criteria of the U.S. center for Veterinary Medicine for the analysis of veterinary drug residues in animal products. The method serves to monitor the presence of nitrofurans side chains in honey. The use of nitrofurans in food producing animals is banned due to the carcinogenicity and mutagenicity of these drugs and their metabolites. Materials and methods in this contribution include reagents and supplies, preparation of standard solution, extraction process for side chain residues of nitrofurans, the extraction procedure for parent nitrofurans, chromatographic conditions etc.

595.799 581.073.A

Bordenkecher Dailey, T - Scott. PE: **Spring nectar sources for solitary bees and flies in a landscape of deciduous forest and agricultural fields; production, variability, and consumption.** *Journal of the Torrey Botanical Society, 2006, 4, 535-547. - 5 fig., 1 tab., many ref.*

Solitary bees and flies are important pollinators of many plant species in temperate latitudes. Nectar rewards of flowers visited steadily are missing, because small quantities are difficult to extract and measure. Authors measured daily sugar accumulation in caged flowers and in uncaged flowers of plants in deciduous forests and agricultural fields in west-central Indiana. Solitary bees were the most common visitors to forest herbs there followed by flies and honey bees. Insects consumed much, but not all of daily nectar.

638.1

Bees for Development: **Beekeeping sustains livelihood. 10 good reasons.** *Bees for Development Trust, Information Poster 1. - 10 fig.*

The reasons are as follows: pollination, useful products, land use, low cost, income creation, beekeeping is non extractive and sustainable, beekeeping offers benefits for other sectors, possibility to market organic-certified honey, beekeeping is resilient when disasters happen, bees can be kept by women and men of all ages. Bees do not need daily care.

591.113

Cremonoz, T - De Jong, D - Bitondi, MMG: **Quantification of hemolymph proteins as a fast method for testing protein diets for honey bees (Hymenoptera:Apidae).** *Journal of Economic Entomology, 1998, 6, 1286-1289.- 1 fig., 2 tab.*

Honey bee longevity, the amount of brood reared by bees and honey production is reduced when protein consumption is insufficient. In this contribution hemolymph protein measurements in honey bees were used to determine the efficacy of protein diets as pollen substitutes. Groups of 120 newly emerged worker bees were fed on bee bread or unprocessed pollen (natural protein diets), soybean/yeast or corn meal (alternative protein diets or a sucrose solution (non protein diet), from adult emergence until 6 days later. The protein content in hemolymph was determined in these bees at 0, 2, 4 and 6 days of adult life. Additionally, vitellogenin (a major protein in young adult worker bees) titer was measured through rocket immunoelectrophoresis of the hemolymph of 6 days old bees. A significant and progressive rise in protein titers was observed from 0 to the 6th day of adult life in the hemolymph of bees fed on bee bread, soybean/yeast, or pollen. But significant protein reduction was recorded in bees fed on corn meal or sucrose only. Total protein measurement and vitellogenin level determination proved to be objective methods for comparing the effectiveness of protein diets. But the former is faster and less expensive and may be used for routine analyses.

595.42A

Giray, T - Kence, M - Kence, A: **Comparison of efficacy of Hive Clean and Perizin against Varroa.** *Uludag Aricilik Dergesi, 2007, 1, 26-29. - 3 fig., 10 ref.*

It was found that Perizin is about 3,5 times more efficient than HiveClean. But Hive Clean preparation is harmless to human health. When applied in early October at the minimal level of capped brood in the hive 25 % fall of Varroa mite was recorded. It is recommended to use this preparation in the Varroa control but after the optimum dosage had been found.

581.135.51

Pichersky, E - Dudareva, N: **Scent engineering: toward the goal of controlling how flowers smell.** *Trends in Biotechnology, 2007,3, 105-110. - 1 fig.,1 tab, \$\$ ref*

The volatiles emitted from the flowers provide potential insect and animal pollination with information about the location and identity of the flowers. Genetic engineering of floral scent could enhance to better appeal to pollinators. A lack of scent has been implicated in the failure of flowers to be efficiently pollinated. Plant volatiles are considered part of secondary or specialized metabolism. Most of the volatiles in plants belong to terpenes, or phenylpropanoids or fatty acid derivatives. First attempts to engineer floral scent were focused on modifications of the terpenoid spectrum. Successful transformation have been developed for several cut flowers. Genetic manipulation of floral scent is possible. Investigators have begun to identify scent genes.

638.124.252

Sprecher Uebersax, E: **Bees in the swarming time: Mechanisms of the swarm formation.** *Schweizerische Bienen-Zeitung*, 2007, 5,9-12. - 6 fig., 1 ref.

Causes of swarming are size of the honey bee colony, condition in the brood nest, age structure of worker bees and reduced pheromon concentration. The growth rate of the bee colony is dependent on the number of worker bees and on the number of eggs which the queen can deposit in a certain period. If the capacity of worker bees exceeds the egg laying capacity of the queen the growth comes to standstill. The capability of the colony is available, but the queen has achieved limit in her egg laying and only invoking of a new queen can satisfy an urge of further growth. Mathematical models are applied to find the possible swarming factors. The decrease of worker bees and reduction of the nest can be explained. Nevertheless control may prevent bee swarming based on the new swarming hypothesis of researchers Feffermann and Starks. Immediate reason of the swarming seems to be the maximal egg laying rate.

639.162.2 581.331.2-081

Fagundez, GA - Caccavari, MA: **Pollen analysis of honeys from the central zone of the Argentine province of Entre Rios.** *Grana*, 2006, 305-320. - 4 fig., 2 tab., many ref.

The Entre Rios province is the fourth largest producer of honey in Argentina, the country being the second largest honey exporter in the world. The province Entre Rios has a great diversity of melliferous plants on the whole territory. Based on the quantitative analysis 20 honey samples were monofloral and 18 were multifloral. 119 pollen types were identified in 52 families. 75% were native plants. Honeydew elements were scarce. Pollen from Asteraceae and Fabaceae were the most represented in the pollen spectra of the honeys.

638.1 (88)

Rajkumar, A: **Guyana. An overview of beekeeping.** *Bees for Development Journal*, 2007, 82, 8-9. - 1 fig.

Beekeeping with honey bees started in Guyana with European settlers and imported Italian bees. The arrival of African bees led to the bee colonies reduction and the number of beekeeper disappeared. By 1985 the number of beekeepers had dwindled

to below 50. Apiaries are subject of vandalism from honey gatherers who destroy not only honey combs, but also brood combs and squeeze all to produce blast honey. Presence of *Varroa destructor* has not been established. Bee pests in Guayana include army ants, toads, lizards, predatory bugs, termites. The proposal for revival of the beekeeping recommend to hire a competent beekeeper for education, to provide training programme for small operators, to establish a training apiary, to offer land for beekeeping and to document the honey flow periods. Indigenous bees are stingless bees with various types of defence.

547.586.2

Beckmann, K - Beckh, G - Lüllmann, C et al.: **Phenylacetaldehyde in honey, a function of the phenylalanin content and of storage conditions.** *Deutsche Lebensmittel-Rundschau*, 2007, 4, 154-158.- 10 fig., 15 ref.

Phenylacetaldehyde can be used as a bee repellent to make honey harvesting easier. The final content of phenylacetaldehyde depends on the amino acid phenylalanine and on factors like temperature and light. Several weeks lasting experiments show that phenylacetaldehyde to be between 1,0 and 2,6 mg/kg does not seem to be based on sound scientific methods especially since they completely ignored phenylalanine contents of the honeys.

638.162.2 581.331.2.081

Malacalza, NH - Caccavari, MA - Fagundéz, G et al.: **Unifloral honey of the province of Buenos Aires, Argentine.** *J Sci Food Agric*, 2005, 85, 1389-1396. - 2 fig., 4 tab., 30 ref.

Unifloral honeys are appreciated by the consumer and that is the reason of particular interest to the beekeeper. Authors analysed samples of 63 unifloral honeys from *Eucalyptus* spp., *Lotus* spp., *Helianthus annuus*, *Melilotus albus*. Brassicaceae, clovers. Honey samples were obtained by cold extraction at the laboratory. The most frequent unifloral honeys were from *Eucalyptus*, *Lotus* and sunflowers. Samples had a low pollen diversity with six to 19 pollen types. All samples presented moisture, HMF, ash and free acidity contents according to international standards. A high variability between samples from the same floral origin was observed. Other factors such as accompanying pollen and geographical origin affect physicochemical properties of honey.

638.154.4A

Pohl, F - von der Ohe,W: **Chalk Brood, mostly harmless, but hereditary.** *Deutsches Bienen Journal*, 2007, 6, 14-15, - 5 fig.

If adequate measures are applied the chalk brood is mostly harmless. Chalk brood is a fungal disease of the bee brood. Spores of the fungus *Ascosphaera apis* are orally taken by larvae and germinate in the intestine. The fungus forms a wickerwork accomplishing the whole larva and kills the larva.

582.912.42

Stout, JC: **Pollination of invasive *Rhododendron ponticum* (Ericaceae) in Ireland.** *Apidologie*, 2007, 198-206. - 2 fig., 3 tab., many ref.

The results of the first investigation of pollinator behaviour on invasive *R. ponticum* in the British Isles. The aims were to determine visitation rates of different insect taxa. Several insect species visited *Rhododendron ponticum* flowers, but the main pollinators are bumble bees and one *Vespula*. One third of insect visits resulted in stigma contact. Investigation showed that queens, workers and males of six bumblebee species were the most frequent diurnal visitors to flowers. Invasive exotic *R. ponticum* which benefits from animal mediated outcrossing has succeeded in forming legitimate pollination interactions with native generalist bumblebee species in the British Isles.

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