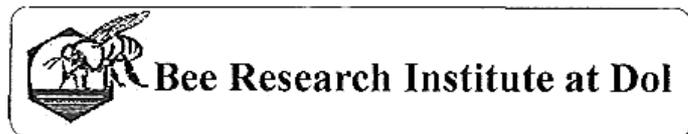


Bi-NyhetsBrev

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523. 78

Woyke, J.; Jasinski, Z.; Fliszkiewicz, C. et al. **Flight activity of *Apis mellifera* foragers at the hive entrance during 86% eclipse of sun.** *Pszczelnicze zeszyty naukowe* (2000) 239-250, 4 Fig., 2 Tab., 7 Ref.

Observation of 10 colonies during 86% eclipse of in Warsaw, August 11 1999. Counting of foragers leaving and returning lasted 5 minutes and the interval between individual countings was 15 minutes. Foragers returned to their hives in considerable increased number and left in considerable lower number with the progress of the eclipse. Minimal number of foragers left the hive between 20 minutes before and 20 minutes after maximal eclipse of sun. The lowest number of foragers returned to all hives 10 - 20 minutes after MES. More foragers remained in the field. The determining factor of leaving the hives by the foragers was not the percentage of sun coverage, but rather the direction of increasing or decreasing of the eclipse.

576. 851. 5

Steinkraus, K.; Granados, K.H.; McKenna, R.R. et al. **Growth of Paenibacillus larvae, the causative agent of American foulbrood in honey bees and Bacillus popilliae, the causative agent of milky disease in beetle larva in Lepidopteran cell cultures.** *Acta Biotechnol.* (1998) (2) 123-133, 4 Tab., 36 Ref.

Finds of laboratory experiments show that there is positive cell growth and sporulation of Paenibacillus larvae and to a much lesser degree of a wild-type strain of B. popilliae in various cell lines from the order Lepidoptera using two types of insect cell culture media. It has been demonstrated that P. larvae can be induced to sporulate in vitro in the presence of insect cells of the moth family.

577. 153. 2A

547. 964. 4C

Pacáková, V.; Štulík, K. **Validation of a method for determination of phospholipase A₂ and melittin in bee venom preparations by capillary electrophoresis.** *Journal of AOAC International* (2000) (3) 549-554, 1 Fig., 4 Tab., 22 Ref.

Bee venom is one of the most important causes of allergic reactions in humans. For that reason methods for the isolation of venom components, their characteristics and their determination are needed for both diagnostic and therapeutic purposes. The principal allergen in honey is the enzyme phospholipase A₂ (with a concentration of about 15% in dry venom). Another allergen is hyaluronidase (with a concentration of about 1-2%). The most abundant component is the polypeptidase mellitin (with a concentration of about 50%) which is poisonous. A method was validated for the determination of main components of bee venom by capillary electrophoresis. The accuracy was estimated by comparison with liquid chromatographic method.

577. 4

Eggers, S. **Bienen beweisen: Die Luft ist rein.** [Bees prove that air is clean.] *Die neue Bienenzucht* (2000) (2) 49, 1 Fig.

Airport Hamburg employs an environmentalist who takes care of the monitoring of air pollution due to air transport. Two hives are located in the surrounding of the airport. Two hives are applied as control on other site. Independent lab investigates pollutants and heavy metals in honey, pollen and air pollutants. No unusual load by pollutants in bee products has been found.

582. 675. 1

Beckers, M. **Das Amuradonisröschen.** [Amur adonis.] *Die neue Bienenzucht* (2001) (3) 76-77.

A plant from the Far East, decorative plant of the old Japanese New year feast, has no nectar source but it is interesting as an early pollen plant.

582. 751. 92A

Jaesch, B. **Sehr gute Ernte aus der Euodia.** [Tetradium gives very good honey harvest.] *Die neue Bienenzucht* (2001) (3) 77, 1 fig.

The last honey extraction in the year 2000 was beginning September. Four bee hives gave 145 kg bee-bee tree honey. The village Bennigsen in Germany has about 1000 bee-bee trees. The author has planted them. He himself has an orchard with 40 bee-bee trees. Bee-bee tree honey has moisture by about 1% higher than summer honeys. Pollen of Euodia hupehensis is in honeys underrepresented. Color of bee- bee tree honey is yellow to light yellow. Bee - bee tree honey is delicious, sweet, lemon aroma, fresh fruity to spicy. The author sells bee-bee tree honey in 500 g glass for 10 DEM.

582. 751. 2

Hackel, H.; Hackel, I. **Blutroter Storchschnabel Geranium sanguineum L.** [Bloodred geranium.] *Imkerfreund* (2001) (3) 30, 2 Fig.

The plant is flower and herbaceous perennial of the year 2001 in Germany. The plant is more visited by butterflies, Halictus bees and flies, bumblebees, less by honeybees. It is recommended to inmix this plant into the stand of the most valuable forage plants *Geranium pratense* and *Geranium phaeum*.

582. 751. 92A

Daems, F. In **Tessengerlo verwennen ze uw bijen**. [You dote up on your bees in Tessengerlo.] *Maandblad van de Vlaamse Imkersbond* (2001) (1/2) 35-36, 1 Fig.

Verenigde Taxanders organize exchange day of plants for already 25 years. About 25 organizations take part in the action, but beekeepers guarant the success. The action contacts beekeepers and non-beekeepers. This year every visitor is to get an *Euodia daniellii* plant, important honey producing tree. (The present botanic name is *Tetradium*). The tree is 5 to 10 m high and has a round crown. Inflorescence consists of 2/3 male flowers and 1/3 female flowers. Male flowers offer more nectars than female flowers which bloom 10 days later. In October the tree has decorative purple red fruits. A flower offers 0, 417 g nectar during 24 hours. Sugar content amounts 66% with sugar value 0, 215 g.

582. 892. B

Klimop [Ivy.] *De Vlaamse Imker* (2000) (2) 20-21.

Planted ivy cuttings with flowers from top shoots do not climb but build shrubs which may bloom each year. But mature seeds of these shrubs when sown create plants which climb and creep. Ivy is rich in pollen and nectar in the autumn. Berries remain whole winter on the plant, are mature first next summer and are consumed by birds though being poisonous. Berries are raw material for pharmacy, for medicaments applied in heart and vascular diseases. Pollinators are honeybees as well as flower flies and wasps.

582. 948. 25B

Fieldsand, A. F. **Borage: a crop with a future**. *Biologist* (1995) 203-207, 4 Fig., 8 Ref.

Borage was recommended as a medicine, but in recent years it has become an economic significant plant because of its seed oil, which is claimed to may have nutritional and pharmaceutical value as a source of gamma linoleic acid. Consumption of a regular exogenous supply of it can relieve or prevent the occurrence of a range of diseases. The plant is extremely attractive to honey bees and is productive source of honey. But borage is extremely attractive to seed-eating birds such as finches, which may severely reduce yield. The average yield of commercial crops may be 375 kg/ha.

582. 949. 27H

D'Albore, G. R. **Falsa ortica *Lamium purpureum* L.** [Purple deadnettle.] *Apitalia*, (2001) (1) 35, 1 Fig.

The plant needs the insect pollination, notably pollination by bumble bees, *Anthophora plumipes*, *Eucera* spp., *Osmia cornuta* Latr., *Xylocopa* spp. and the European honeybee. Bees are interested in this plant, though it is visited by other insects. Potential honey production is about 250 kg per 1 hectare. Collection of bright red pollen is rare and in small quantities.

591. 032

Schmaranzer, S. **Thermoregulation of water collecting honey bees (*Apis mellifera*)**. *Journal of Insect Physiology* (2000) 1187-1194, 4 Fig., many Ref.

During stays of honey bees visiting a pond for collecting water the body surface temperature of water foragers was measured using contactless thermography. Irrespective of the ambient temperature which ranged from 13, 6 to 27, 2°C the water foragers reached thoracic temperatures of 36 to 38, 8°C. The maximum thoracic value of an individual bee was 44, 5°C. At ambient temperature 20, 9 to 27, 2°C head and abdomen were only about 3 - 2°C higher than the surroundings. In lower range of ambient temperature 13, 6-16, 6°C the bees warmed their heads up to 29, 2° C and the abdomen up to 23, 3°C. The average duration of stays at the pond decreased linearly from 110s to 42s with rising ambient

temperature. Head and thorax showed great fluctuations of temperature. The head was heated by 4,6°C within 25s, the thorax by 6,1°C within 30s. Foragers drinking sucrose solution increase their thoracic temperature with rising concentration of the sucrose solution.

591. 035. 4

Leute, A. - Zehnder, H. **Bienen und Erdstrahlen - der Standort.** [Honeybees and earth radiation.] *Schweizerische Bienen-Zeitung* (2001)(1) 15-16, 5 Fig.

The hive entrance should be located in south-east direction. The forage should be in front of colonies. Main radiation lines and points include Curry-Diagonal Lattice-Net, in distance 3, 5 to 4 m in interpoints of compass SW-NE and NW-SE. These lattice net strips are life line of the honeybee. Hartmann-lattice runs in the points of compass N-S and E-W. It is not suitable to locate hives on water veins. Experiences with the migratory car indicate that it is useful to place the car in that way that on the narrow side there are 10 colonies and on the long side 13 colonies. Narrow side has entrances SE and long side entrances are SW directed on double zone of Diagonal Lattice.

591. 185. 4

Sandoz, J. C.; Laloi, D.; Odoux, J. F, et al. **Olfactory information in the honeybee: compared efficiency of classical conditioning and early exposure.** *Animal Behaviour* (2000) 59, 1023-1034, 3 fig., many ref.

Restrained bees were subjected to a Pavlovian associative learning procedure, based on the conditioning of the proboscis extension response (PER), where a floral odour was paired with a sugar reward. Attention was given to the orientation behaviour of conditioned and naive bees in a four-armed olfactometer with four contiguous fields either scented with the conditioning odour or unscented. Conditioned bees were oriented towards the conditioning odour, whilst naive bees shunned it. The effect of passive olfactory exposures during the bees' development was assessed in two behavioural contexts: either orientation in the olfactometer or a PER conditioning procedure. Two exposure periods were applied: the pupal stage (9 days before emergence), the early adult stage (8 days after emergence). No effect of preimaginal exposure was recorded. Observations show that olfactory information gained during development can modify bees' later behaviour in different context. Food odours and thus floral odours play a role in colony recognition by honeybees.

591. 185. 4

Laloi, D.; Bailez, O.; Blight, M. M. et al. **Recognition of complex odors by restrained and free-flying honeybees, *Apis mellifera*.** *Journal of Chemical Ecology* (2000) 2307-2319, 2 fig., 1 tab., 34 ref.

It was found that worker bees are able to discriminate between closely related cultivars or plant phenological stages. Complex odor recognition in the honeybee was investigated using two behavioral assays: The conditioning of the proboscis extension with restrained individuals and the observation of foragers visiting an artificial feeder in a flight room. Nine oilseed rape volatiles were tested either individually or in mixtures. The performed experiments included the determination of the acquisition rate of the nine compounds in the proboscis extension assay and the discrimination of the individual compounds after conditioning to a mixture, using the proboscis extension assay and free flying foragers. After conditioning to a complex mixture, honey bees established a hierarchy among the components. Both behavioral assays led to the same classification of compounds indicating good agreement between discriminating abilities of restrained individuals and of a population of foragers. The key compounds for recognition of these mixtures were those that were well learned when presented individually.

595. 42A

Zola, A. **Varroa. Resultados con tratamientos en base al uso de vaselina.** [Varroa control by vaseline.] *Espacio apícola* (2000) (45) 36. 39., 4 fig.

Effective and unarmful as well as cheap method for Varroa control based on the use of twine impregnated by the solution of vaseline, honey, beeswax, water. The author tested this method on 5000 honeybee colonies in the province Buenos Aires in Argentine with good results. The impregnated twine by the above mentioned solution is put on the upper bar in the brood space. Bees at their walking get the mixture on their legs and by combing put it on the body and in this way the vaseline is spread in the hive. Varroa coming into contact with the vaseline and because of tracheal respiration has difficulties with the respiration and dies. The applied dosis for the treatment of a hive: 946 g vaseline viscosity 180, 236 g honey, 232 g beeswax, water and cotton twine of 1 m in length. The vaseline is to be in very liquid state about as water. Denser vaseline could kill bees as they also apply tracheal respiration. Cotton twine does not contaminate the environment. If agave or hemp twine is applied, honey is jeopardized by residues of toxic substanes developed at the processing. The new method is the invention of Dr. Rodriguez.

595. 42A

Romaniuk, K. **Wplyw temperatury w ulu na skutecznosc zwalczania inwazji Varroa jacobsoni u pszczól.** [The temperature influence on the efficacy of ant-Varroa mite fumigant drugs.] *Medycyna Wet.* (2000) (11) 741-742, 1 tab., 22 ref.

Honeybees were treated with Apiwarol AS and with Folbex VA. Experiment included 10 colonies, each on 6 combs. Folbex VA gave the efficacy 80%, colonies treated by Apiwarol AS 100%. In the group treated with Apiwarol AS a decrease in nest temperature as much as 3,5° in comparison with the group treated with Folbex VA. The higher efficacy may be caused probably by better ventilation.

595. 42A

Charriere, J. D.; Imdorf, A. **Träufelbehandlung mit Oxalsäure.** [Varroa control by means of oxalic acid dripping.] *Schweizerische Bienen-Zeitung* (2000) (1) 18-22, 4 fig., 3 tab., 8 ref.

Winter treatment of colonies is utmost important. In this way most of mites are killed which otherwise may be a basis for mite population for the next year. Dripping of sugared oxalic acid solution proved to be good. Following hints are the results of trials and of cited literature: 35 g dihydrate of oxalic acid in 1 liter sugar water, 30 ml for a small colony, 40 ml for middle colony, 50 ml for a big colony. Such quantity is equal to 5 - 6 ml for occupied bee gate in a Dadant hive. Time of treatment, in a broodless colony in November and December. Only one treatment is done in the autumn. The solution is applied among frames directly on bees, ambient temperature should be above 0°C. Solution must not be older than 6 months. Maximal temperature of the storing of oxalic acid 15°C. At the treatment the beekeeper is to wear gloves and protection spectacles.

595. 42A

Webster, T.; Thacker, E. M.; Vorisek, F. E. **Live Varroa jacobsoni fallen from honey bee colonies.** *Journal of Economic Entomology* (2000) 6, 1596-1601, 6 fig., 1 tab., 24 ref.

Investigation was made during a 20 week period. A large fraction of the fallen mites was alive when miticides were not used. Alive mites were found even when fluvalinate and coumaphos were applied. The live proportion of mitefall increased during very hot weather. The proportion of mitefall that was alive was higher at the rear and sides of the hive compared with that falling from center frames near the hive entrance. More sclerotized than callow mites were alive when they fell. A screen covered trap that covers the entire hive bottom board requires a sticky barrier to retain all live mites. Such or other trap that prevent fallen viable mites from returning to the hive is recommended as a part of integrated control program. It also may slow the development of acaricide resistance in Varroa and allow the substitution of less hazardous chemicals for the miticides currently in use.

595. 42A

Kober, T. **Honey double sieve used for determining Varroa infestation levels.** *American Bee Journal* (2001) (1) 37, 3 fig.

A honey double sieve used to strain honey directly from the extractor is used for separating the mites from the bees. After shaking the bees in alcohol bees are poured into the double sieve and then washed with a strong spray of water. Bees remain in the coarse sieve and mites are in the fine sieve where they are counted.

595. 42A 547. 461. 2

Sorge, K. **Gegen die Varroa nur mit OS.** [Only oxalic acid against Varroa mite.] *Deutsches BienenJournal* (2001) (1) 18-19.

EU permits the application of oxalic acid for ecological agriculture. The author tested the 3% oxalic acid in spray already December 1994. Since that time the author uses exclusively this method because bees are not hot tempered and no increased mortality and loss of queens have been found. The treatment is done some days after the first short frost after the bees have established the winter cluster. Each side of combs is sprayed with 4-5 ml 3% oxalic acid prepared in the drugstore. Oxalic acid is applied only in broodless colonies. The treatment is combined with drone brood removal.

595. 766

Gagnon, F. **Abeilles contre fourmis.** [Honeybees against ants.] *Revue Suisse d'Apiculture* (2000) (10) 375-376, 1 fig.

Principal apicultural proceedings describe ants as boring animals. But the author found a hive covered by large ants (approximately 1 cm long). Examination of the hive showed that all the content of it was eaten up: honey, beeswax as well as honeybees. Rests of bees were on the bottom. In distance about 12 m from the hive there was 1 m high ant-hill. The author studies possible control of ants, as very effective he sees sulfur dioxide, which penetrates all galleries and kill all insects. Other known control is included.

616. 314. --002

Aguirre, H. **Miel y dientes.** [Honey and teeth.] *Espacio Apícola* (2000) (45) 18-19, 1 fig., 2 ref.

Physician and surgeon from Argentina states that honey is not sugar, is only honey, i. e., sugars (glucose, fructose etc.) bioactive substances with antiinflammation, antiseptic properties as vitamins and enzymes contained in honey. He lists experiments from USA. Lactobacillus is found in 100% when sugar is consumed, when honey is consumed Lactobacillus is found in 18%. Those without dental caries at the beginning if consuming honey have no damage on teeth, if consuming sugar 73% indicated caries. Other trial from France proved that healthy teeth are maintained in 90% if balanced diet was applied, in 60% if honey is consumed and only in 10% when sugar is as sweetening agent. Good health of the mouth is ensured if no sugar and sugar containing delicacy are consumed.

632. 35A

Wamsler, A. **Bakterien gegen den Feuerbrand - eine Alternative zum Antibiotikum.** [Bacteria against fire blight.] *Schweizerische Bienen-Zeitung* (2000) (2) 28-30, 3 fig.

Erwinia amylovora, pathogen of the disease which attacks fruit trees in the eastern part of Switzerland is controlled by streptomycin in US. In Europe, where the application of antibiotics is forbidden, Plantomycin may be applied, but on special approval. Researchers of the Biological Institute at Darmstadt found on apple flowers *Bacillus subtilis* as the adversary of the fire blight. The firm Bio-System from Konstanz has developed a process of rearing and application for this bacterium. This antagonist has no toxic impact and is unharmed for men and animals. As in American experiments it is expected that apart from the spraying the antagonist may be spread on apple flowers by honey bees, mainly for protection of high stem trees. The producer of the *Bacillus subtilis* preparation now expects the authorisation.

632. 35A

Honey scandal in South Germany. *Tidsskrift for Biavl* (2001) (2) 39.

Fruit tree orchards in Germany were treated against fire blight by streptomycin, here applied under the name Plantomycin. The spraying occurs in the time of blooming and honey bees bring contaminated nectar home. Authorities tried to solve the problem without forbidding Plantomycin. They offered to carry out honey analysis gratis and to buy the contaminated honey if the residues were above permitted level. Problems may occur also in other European countries.

632. 95

Kubik, M.; Nowacki, J.; Pidek, A. **Contamination of foundation with fluvalinate in Poland in 1990-1999.** *Pszczelnicze zeszyty naukowe* (2000) supl. 1, 58-59, 1 fig., 5 ref.

Fluvalinate is nontoxic for bees and has no known negative side effects. The first traces of this acaricide was found in foundations made from beeswax harvested 1994. Since 1997 fluvalinate was found in most of the samples analyzed and content increased and 1999 mean contamination by fluvalinate was higher than 1 mg/kg. The research results lead to the statement that a new acaricide should be introduced against Varroa mite because permanent presence of fluvalinate in hive makes the conditions in hive favourable for Varroa survival.

638. 1 (437. 1/. 2)

Brezina, G. **Beekeeping in Czech Republic.** *American Bee Journal* (2000) (5) 818-819, 5 fig.

The Czech Republic with 10 hives per square kilometer belongs among the top beekeeping countries in the world. The beekeeping is done by small, mostly sideline beekeepers. The reason why Langstroth are not wide spread is that they are not suitable for beehouses or migratory trailers. The control breeding has been focused to strain Carniolan bee. Disease control is well organized. Antibiotica are not fed. The author visited the beehouse of M. Svoboda and the impressions among others are docile bees and only very little smoke was applied and no protection was needed. It is mentioned that the Mecca of Beekeeping is the Bee Research Institute, where artificial insemination courses are organized and where a complete and successful system of varroa control has been developed. No significant losses due to the varroa mite infestation in contrast to neighbouring countries occur. Varroa treatment is with no detectable contamination and the danger of developing resistant mites is much lower. Non-chemical manipulations play an important supplementary role.

638. 1 (437. 1/. 2)

Discussion on the education of young beekeepers. *Včelařství* (2001) (3) 56.

Interview prepared by the editor of the Czech beekeeping journal. The average age of members of the Czech Union of Beekeepers is 59,5 years. The start of groups of young beekeepers is supported by 5000 CZK. Active groups of young beekeepers are in Moravia and in several organizations in Bohemia. Stress is put on the family background. A family of beekeeper is the good warrant of the beekeeping in future. The present youth has another feeling of life values. Revaluation of values is to come with the necessary effort to return to the nature.

638. 1 (468. 5)

Eickmeyer, K.; A. **Auf den Kanaren als Urlauber auf Bienenpirsch.** [As holiday maker on Canary Islands on honey bee stalking.] *Deutsches BienenJournal* (2001) (3) 28, 2 fig.

Endemic bee of the Canary Islands is dark honey bee. The author names the bee *Apis mellifera canaris*. Good tasty honeys of the Islands are very attractive products for foreign tourists. Local inhabitants prefer imported honey, obviously because of prices. German and French beekeepers have imported Buckfast bee colonies to main island, Teneriffa. The most western island La Palma has about 1600 honey bee colonies. Authorities are preferring local honey bee race and support it with subsidies.

638. 1 (569. 4)

Chlebo, R. **Včelárstvo v Izraeli.** [Beekeeping in Israel.] *Včelár* (2000) (1) 8-9, 3 fig.

The author took part in one month beekeeping course organized by The Centre for International Co-operation in the Kibbutz Shefayim. There were in total 30 participants from 20 countries. Israel has about 700 beekeepers who own about 70 000 honey bee colonies. Mean number of colonies per one beekeeper is from 200 to 2000. Commercial beekeeper owns usually more than 1000 bee colonies. Most colonies are kept in Langstroth hives. Modern Israel honeybee is bred on the basis of *Apis mellifera syriaca* amended by imported Italian queens from US beekeepers. Average yield achieved by a smaller beekeeper amounts 20 to 30 kg honey, large beekeeper harvests 50 to 60 kg per a hive. Pollination is rewarded, a beekeeper gets on average 60 USD as a rule for a colony applied for pollination. Pollination of plants rich in nectar is less expensive. The activities of all apicultural institutions and organizations are coordinated by chairmanship of managers, one representative of each institution and two beekeepers from practice.

638. 1 (729. 87)

Rice, F. **UK beekeepers handle Africanised bees.** *Beekeeping* (2001) (2) 44-47.

Impressions from a tour to Trinidad, which is divided into six regions and each one has an Extension Officer who are responsible to the Inspector of Apiaries. Trinidad has varroa and controls it by using Apistan. Other problems for beekeepers are wax moth, ants and termites and last but not least Africanised bees. These bees are to be kept 200 m from a public highway and 100 m from a private road, they must be positioned nearly 3 m from each other, smoking is essential, heavy duty bee suits and gloves are necessary. All the honey produced in Trinidad is sold in the country at prices much higher than in other countries. The alarm pheromone response time is about 5 seconds whereas for the European bee 13 seconds.

638.1

061.238

Nowak, K.; Kosieradzka, K. **Pszczelarze do Unii Europejskiej.** [Beekeepers into EU.] *Pszczelarstwo* (2001) (2) 12-13, 4 fig.

70 Polish beekeepers visited Brussel and Germany within the frame of training organized by Polish Union of Beekeepers in co-operation with the Rural Centre of the European Integration. The principal aim was the information of participants about the negotiations and requirements of EU and so about the necessary steps of Polish beekeeping in future. Honey market is based on the directive 74/409/EWG. The journey included visit to the Research Institute at Celle.

638.1

061.238

Nilsson, B.; G. **EKOBI-YBs verksamhetsberättelse för aar 2000.** [Report about the activities of EKOBI Commercial beekeepers in Sweden.] *Gadden* (2001) (1) 2. 4.

Swedish association of commercial beekeepers has 557 members. Attention was given to Varroa. Alternative medicaments instead of Apistan are searched. American foul brood occurrence is increased, mainly in south Sweden. The association organized study tour to Sicilia. Excursion was arranged to experienced beekeepers. A course of beekeeping included participants, owners of less than 150 hives.

638.1

061.238 APISLAVIA

Stibor, P. **XIIIth Congress of Apislavia Beograd.** *Včelařství* (2001) (1) 14-15, 5 fig.

The Congress was held October 4 - 6 and participants were from Poland, Slovakia, Serbia, Macedonia, Bulgaria, Ukraine, Russia. The Congress is based on the historical fundament since the year 1910. Congress solved problems of beekeeping in post-communist countries. Resolutions included the tasks as e. g. establishment of united library, exchange of lectures, expositions of bee products, formation of common standards for participating countries. Next congress is to be held in Prague in the year 2002.

638. 1. 007 (73)

Gray, A. P. **Se requieren apicultores para los Estados Unidos.** [Beekeepers wanted for United States of America.] *Espacio Apícola* (2000) (45) 13.

World Bee Management established in the year 1997 is a service for commercial beekeepers and organizes human labour for the US apiculture. At the present time there are 7 US commercial corporations which need 23 beekeepers who have experience in beekeeping 5 years at least. Web site: <http://www.worldbee.com>. Original search for beekeeping labour was limited to Central Americas, mainly Nicaragua, now the interest is widened to South America. US honey industry misses young qualified beekeepers willing to work in the terrain. The offered jobs are for three to nine months in a year.

638. 1. 003

Kamler, F. **Problematika komerčných včelárskych prevádzok.** [Problems of commercial enterprises.] *Včelár* (2000) (1) 7.

Results based on the analysis of data sent by respondents. Bee Research Institute Dol sent 75 questionnaires to beekeepers with more than 150 colonies and to some beekeepers, owners of more than 40 colonies. Migratory beekeeping was not performed with 60% and 69% colonies. Migratory distance was 48 km at beekeepers with less than 100 colonies, 14 km at beekeepers owning more than 100 hives. Average yield of smaller beekeepers was 47 kg and of beekeepers with more than 100 hives 22 kg honey. Honey extraction requires 86 minutes at beekeepers with less than 100 hives and 250 minutes at enterprises with more than 100 hives. Sugar consumption per 1 colony was 19 kg at beekeepers with less than 100 hives and 16, 8 kg at beekeepers with more than 100 hives.

638. 114. 4

Tew, J. E. **1500 hives and only a pick-up truck.** *Bee Culture* (2000) (11) 28-30, 9 fig.

Collins and his wife manage 1500 hives with no outside help. Collins uses a heavy duty pick up and 51 trailers each capable of holding twenty colonies. Collins have developed a speciality pollination business and most of his customers are his neighbours. He builds his own trailers and are all just alike. Initial cost of the trailers is significant, but it is upfront and one time. The trailers require only the assistance of the wife and obviate the need for other human labor. Honey production is minimal. Pollination is based on written contract.

638. 121. 246

Beverly la Ferla Bee-flower interactions: a field test of an optimal foraging hypothesis. *Journal of Biological Education* (2000) (3) 147-151, 5 fig., 9 ref.

The study involves long tongue brown bumblebee *Bombus pascuorum*. It has shown that brown bumblebees move in upward direction while foraging on vertical inflorescences (flower spikes). Plants which have female -stage flowers low and male-stage flowers high on their spike would be likely to have less self-pollination. *Stachys palustris* is an example.

638. 121. 246. A

Anderson, C. **The adaptive value of inactive foragers and the scout-recruit system in honey bee (*Apis mellifera*) colonies.** *Behavioral Ecology* (2001) (1) 111-119, 3 fig., 2 tab., many ref.

Scouts search for productive forage sites and then recruit other workers to those localities using a waggle dance. The author presents a simple and tractable model of active (scouts) and inactive (reserve) foragers in an insect society. The model is used to study the relationships between nectar availability, their efficiency of the recruitment system and the optimal proportion of scouts. Results show that the optimal proportion of scouts based on maximizing either net gain or energetic efficiency depends strongly on the quality of the environment and the ability of recruits to locate a patch advertized through a recruitment dance waggle dance. The model is demonstrated to be relevant to many insect societies that employ a scout-recruit system. An unexpectedly high rate of inactivity in honey bees is confirmed. The models demonstrate how the scout-recruit system is adaptive.

638. 124. 252

Lewis, L. A. -Schneider, S. S. **The modulation of worker behavior by the vibration signal during house hunting in swarms of the honeybee, *Apis mellifera*.** *Behav Ecol Sociobiol* (2000) 154-164, 2 fig., 5 tab., many ref.

The vibration signal was examined as to the role in the house hunting process of seven honeybee swarms. The signal was performed by a small proportion of the older bees and 20% of the vibrating bees also performed waggle dances for nest sites. Compared to non-vibrating controls, vibrating bees exhibited increased rates of locomotion, were likely to move into the interiors of the swarms, and were more likely to fly from the clusters and perform waggle dances. Recipients responded to the signal with increased locomotion were more likely to move into the interiors of the swarms, and were likely than non-vibrated controls to fly from the swarms. The signals may have enhanced nest site scouting and recruitment early in the house hunting. All swarms exhibited increased vibration activity within 0, 5 to 1 h of departure. The vibration signal may help to integrate the behavior of numerous groups of workers during nest site selection and colony relocation.

638. 124. 62B

Ilič, D. **Vorovstvo - neobchodimost ili patologija?** [Robbing -necessity or pathology.] *Pčelovodstvo* (2000) (8) 54-55, 1 fig.

Honeybee has an excellent sense of smell. Scanner of the bee (sensors) helps her to differ many odors. If her scanner is damaged, the bee is not able to live. Sense of smell is of importance for the nutrition protection. There are objective reasons why a colony may take honey from another colony. Absence of the queen is the decisive factor for robbing. Six described experiments give advice about possible reasons of robbing. Robbing does not occur if queen pheromone is present even in the environs of the hive. Robbing may be carried out by bees from two colonies at least. Robbing is to destroy colony of low value. A right measure for preventing robbing : during the whole year careful monitoring of the development of colonies and keeping of only biological valuable healthy bee colonies.

638. 132

Flore mellifere de sous bois, de forets, de jardins de période hivernale asu debut du printemps. [Nectar yielding plants in greenwoods, forests and gardens in the winter period and in the beginning spring.] *Bulletin des Apiculteurs Picards* (2000) (4) 11.

Following plants are recorded: Christmas rose, spring star lilly, sylvan violet, cowslip primrose, twinleaf squill, buttercup *Ranunculus auricomus*, yellow wood anemone, European wood anemone, snowdrop anemone, *Ranunculus ficaria*, common coltsfoot, common lungwort, European goose berry.

638. 132 (45)

UE: diminuiscono le coltivazioni di colza e girasole. [EU: reduction of rape and sunflower growing.] *Apitalia* (2001) (1) 8.

In the European Union the total area of rape was reduced by 15% and that one of sunflower by 10%. In the year 2000 the Italian area of rape fell from 60 000 ha down to 45 000 ha. On the contrary the area of sunflower in Italy was increased from 212 thousand ha in 1999 to 249 thousand ha in the year 2000.

638. 138

Neve, A. **Klimhortensia (*Hydrangea petiolaris*)** [Climbing hydrangea.] *Bijen* (2000) (1) 8-9, 1 fig.

Hydrangea is a composed word given according to the fruit form, consisting of the Greek *hydor* water and *angeion* barrel, the name *hortensia* is according Hortense Barr, friend of the French botanist Commerson who described the plant in China. Honey bees collect mainly pollen which is viscous, light yellow colour.

638. 138. 2

Roulston, T. H.; Cane, J. H. **Pollen nutritional content and digestibility for animals.** *Plant Syst. Evol.* (2000) 187-209.

Review of digestion and nutrient content of pollen. It is suggested that the difference in digestibility among pollen types may reflect differences in pollen wall porosity, thickness and composition. Most animals studied including those that do not regularly consume pollen, can digest 50-100% of ingested grains. Pollen grains may contain over 60% protein. Insects require dietary sterols for the production of certain hormones. For most bee species dietary sterols come from pollen. The most important sterols for honeybees appear to be cholesterol. Sterols may serve also as pollinator attractants. Certain pollens are toxic to bees, particularly honey bees. Suspected pollens come from species of monkshood *Aconitum*, horsechestnut *Aesculus*, *Andromeda*, *Astragalus*, *Digitalis*, karakanut *Corynocarpus*, henbane *Hyoscyamus*, knotweed *Polygonum*, *Rhododendron*, *Scolypoda*, lime tree *Tilia*.

638. 14. 015. A

Wilson, R. L.; Abel, C. et al. **Indoor wintering small honey bee colonies.** *Journal of the Kansas Entomological Society* (1999) (3) 289-296, 1 fig., 6 tab., 7 ref.

North Central Regional Plant Introduction Station in Ames, IA (USA) acquires, conserves and distributes plant germplasm for use by plant scientists to make improvements in agronomic and horticultural crops. The station uses honey bees for the pollination of germplasm accessions grown under cages for seed increase. 700 to 1000 cages are necessary each growing season. Each cage is provided a nucleus hive of honey bees containing about 6000 worker bees plus a queen. These hives are too small to overwinter outdoors in Iowa. To reduce costs and overwinter nucleus colonies the Station remodeled an existing building to provide an environmentally controlled chamber. Indoor wintering has been effective, but no published research has been conducted on overwintering small colonies. The described method with a room 7, 3 x 6, 1 m was converted into an environmentally controlled honey bee wintering facility and with ventilation system set at 3 air exchanges per hour. Only queenright nuc colonies were selected for overwintering. The method has been successful. Four or more frames of physiologically young honey bees in September are optimal for indoor wintering.

638. 14. 08

Ayudas Apícolas Año 2001. [Allowances for the apiculture 2001.] *El Zangano* (2001) (82) 4-8.

There are two concepts of allowances in regions Castilla and Leon in Spain. The first one is for pollination and the second one is for better production and marketing of honey. Applicants should be registered in the official register of bee farms before January 2000, are to be farmers and liable for insurance contribution. The allowance for one hive 1500 ptas, if owner is individual beekeeper, 1650 ptas if owner is a co-operative. The applicant is to have not less than 150 colonies. The maximal subsidized number of colonies are 500. In comparison in the year 2000 minimal number of colonies 100 and subsidy for a colony owned by a co-operative were 2000 ptas. Allowances for better production and marketing of honey as established by EU concern information and technical assistance to beekeepers, honey analysis, rationalization of the migratory beekeeping and control of varroosis and associative diseases.

638. 142

Arge **Zargen mit Falz am Prüfstand.** [Tests of boxes with rabbit.] *Bienenwelt* (2001) (2) 12-13, 2 fig.

Rabbit in hive boxes is to be preferred as it is simple and safe transport aid. Rabbit is a prevention against slide, secures loading and unloading of hives, enables rapid handling at swarming control. But against rabbit in hives there is the fact that production of hives without rabbit is cheaper and simpler, as well easy adaptation when boxes produced in different time terms are put together. Bees in rabbitless hives cover imprecisions by propolis easier.

638. 142 (489)

Hansen, C. W.; Vejsnaes, F. **Rea-Dan stædet.** [Rea-Dan hive.] *Tidsskrift for Biavl* (2001) (1) 10-11, 3 fig.

Impressions from a visit to the factory Tinby at Flensborg. The hives produced here are made from polyurethane, based on two products bought from Bayer Kemi. Isolation capacity of polyurethane 40

mm thick equals 120 mm thick spruce tree or 100 mm rockwool. Hive is delivered in natural colour. Experience shows that the hive withstands the weather conditions out of doors for more than 25 years. Price of Rea-Dan hive is naturally higher than that one of other types of hive.

638. 145. 3

Van Engelsdorp, D.; Otis G. W. **Application of a modified selection index for honey bees.** *Journal of Economic Entomology* (2000) 6, 1606-1612, 3 tab., 55 ref.

The use of selection indexes for honey bee breeding is potentially a valuable tool for honey bee breeding. This is an objective standard by which to evaluate different honey bee stocks. Selection indices are frequently used in breeding programs. Honey bees in USA have an estimated economic value assessed at 14, 6 billion annually and for that reason a special attention is given to the breeding problem. The authors sent 153 surveys, of them 64 were returned within 3 months. The first step in the process was the adopting of an index that ignores genetic concerns, because heritabilities of traits and correlations between them are difficult to determine. The approach is the first to incorporate values assigned by beekeepers.

638. 147. 27B

Smith, P. **Queen finder.** *Bee Culture* (2000) (9) 34-35, 6 fig.

A device for separating a queen from her court. A box is made out of wood about the same size as the brood box. Nailed a piece of 7, 5 cm x 1, 2 cm inside and along one side at the bottom of the box and 1, 2 cm framing the rest of the way round. The author stacks a floor, empty brood box, queen excluder and second empty brood box, along side the hive where the queen resides, the top brood box pushed a little back to leave an opening wide enough to take frame. A queen excluder rests on the framing and is nailed to it. The process is as follows: the first frame is taken, bees are shaken into the box and onto the queen excluder, and when no more bees were on frame, the frame is put into the lower brood box and it is pushed along the runners so that it is under the queen excluder. The other frames follow in the same way, so that the bottom brood box now contain all the frames. Puff of smoke forces most of the bees go through the excluder except for drones and the queen.

638. 153. 3B-08

Frediani, D. **Nosemiasi: anche la "diarrea" delle api desta preoccupazione.** [Nosema disease: also the diarrhoea of honeybees causes concern.] *Apitalia* (2001) (1) 16-17.

Nosema disease hitherto seen as a minor pathological factor grows in its importance in the last years. Rapid expansion of the disease is conditioned by the climate. The control is difficult because only one medicament is authorized for treatment (Fumidil B). Following preventive measures are recommended: maintenance of strong bee colonies, rational rearing, adequate nutrition, location of hives on ensured sun exposition. Fumidil B is administered in spring and in autumn. In spring 5 g of the preparation in 5 l sirup is spread for 2 - 3 weeks, in autumn the dose is 10 g.

638. 153. 3B-085

Nosema delle api: un'emergenza da affrontare solo con metodi naturali. [Nosema disease of honeybees: control of the emergency case only with natural methods.] *Apitalia* (2001) (1) 20-21, 2 fig.

There is no chemical medicament for the control of the disease. Worsening of the disease is really a problem. Recommending of natural cure involves the application of fresh common wormwood without roots in the quantity 50 g cooked in 1 liter water for 15 to 20 minutes and then filtration is carried out. The concentration is monitored and corrected according to the required density in the same measure as the spring feed.

638. 154. 2A

Jendruszuk, A. **Wpływ inwazji *V. jacobsoni* na występowanie i przebieg choroby woszczkowej czerwiu.** [The influence of the mite *V. destructor* infestation on the occurrence and course of sacbrood disease.] *Medycyna Wet.* (2000) (10) 667-671, 3 tab., 20 ref.

The invasion of the mite is of no immediate influence on the occurrence of the sacbrood, but it causes the return of the disease and the intensification of its process. Sacbrood disease is more distributed in Poland than it could be supposed. The infestation level of Varroa was compared between colonies with symptoms of sacbrood disease and in sacbrood free colonies. The course of V. destructor infestation and the course of sacbrood disease were observed from May to September in colonies where the varroa disease was controlled and in colonies not treated with varroacides. In colonies untreated against Varroa, the varroa disease contributes to recurrence of sacbrood disease and intensifies its course. The efficient control of Varroa disease conditions effective sacbrood control.

638. 154. 34

Ball, B. **New EFB research.** *Beekeeping* (2000) (1) 24.

A student based at Cardiff University is to co-operate at IACR Rothamsted with the authoress over three years on investigation into the incidence and prevalence of European foulbrood and the factors affecting disease outbreaks. In the first phase sensitive techniques is to be developed for the detection and quantification of the causative organism *Melissococcus pluton*.

638. 154. 4A

Krause, M. **Kalkbrut - genetische Veranlagung.** [Chalk brood - genetic pre-disposition.] *Deutsches BienenJournal* (2001) (1) 18.

Experiences with the chalk brood control. The applied formic acid reduced preliminarily the occurrence of the disease and the colony survived the winter. But after the brood activity started again the chalk brood appeared as well. The author removed the hive queen and chalk brood mummies and introduced two years old queen obtained from a neighbour. At first chalk brood mummies fell in less number, but then the fall was increased and lasted till young bees of the added queen have taken up the activities. Successively the number of daily cleared mummies was steadily reduced and after about 80 days no chalk brood has been found. The conclusion is that the chalk brood epidemic in a bee colony was cured by the requeening without other treatment after 80 days. Genetic pre-dispositions are the cause. The conclusion is supported by the research done by Yacobson in Israel.

638. 162. 2

Comi, G.; Manzano, M.; Lenardon, M. et al. **Aspetti microbiologici e chimico-fisici de mieli di diversa origine.** [Microbiological and chemical-physical aspects of various honeys.] *Industrie Alimentari* (2000) 966-975, 17 tab., 35 ref.

Honey in its composition and due to chemical-physical characteristics (pH value, humidity, water activity, concentration) is a product which is easily conserved in time. But in some cases there may be change on the part of xerophilous yeasts. With respect to the origin honey may contain rich microbial flora of various origin. Principal microorganisms which may be found are divided in three groups: common microorganisms common in honey (some types of yeasts and sporogenous bacteria), microorganisms responsible for the sanitary quality (coliformous and yeasts), microorganisms pathogenous. *Zygosaccharomyces* spp. were the main found yeasts. These yeasts can fermentate honey by producing ethanol and gas. Fermentation is not to be combined with humidity, pH and a_w . It seems that temperature is necessary for the yeast growth.

638.162.2 581. 331. 2-081(480)

Varis, A. -L. **Influence of changes in crop cultivation areas on pollen contents of honey.** *Agricultural and Food Science in Finland* (2000) 253-257, 13 ref.

Pollen analysis of honey collected from the entire beekeeping area of Finland was done in late summer 1997. The most common pollen type was Brassicaceae pollen. It represented 60% of the counted grains. 10% of the counts made *Salix*, 10% *Trifolium repens* and *T. hybridum*, 6,5% *T. pratense* and *T. medium*. Numerous pollen grains were those from *Phacelia* spp., *Filipendula ulmaria*, *Apiaceae*, *Sorbus aucuparia*, *Malus domestica*, *Rubus idaeus*. All these pollen types made 96% of the pollen examined. In 1930' white clover was the most important honey source in Finland. Since 1950s oilseed crops have been grown in increasing rates. Pure timothy meadow fescue pastures and hay stands have

decreased the share of *Trifolium* species. The present study shows that changes in agricultural policy which have changed the agricultural systems and land use are to be seen in the pollen content of honey.

638.163.42A

Schäfer, W. **Schnelles Entdeckeln der Waben mit einer Elektro-Schere.** [Rapid uncapping of combs by means of electro-scissors.] *Deutsches BienenJournal* (2000) (2) 20, 2 fig.

The author tested a pair of sheep scissors for uncapping honey. Two clip heads for scissors were used. Better results were obtained with scissors 3000 with A3-knife of the firm Lister, Lüdenscheid in Germany. It was confirmed that sheep scissors are suitable for uncapping honey. Light heat of the knife is favourable for clipping.

638.163.5B

Comi, G.; Manzano, M.; Lenardon, M. et al. **Parametri che influenzano l'alterazione microbiologica del miele.** [The parameters which influence yeast fermentation in honey.] *Industrie Alimentari* (2000) 1127-1133, 5 tab., many ref.

The found data show that water activity lower than 0,57, humidity lower than 18%, storage temperature lower than 10°C and yeasts concentration lower than 1000 UFC/g can inhibit osmophilic yeasts growth in honey. a_w is a term applied also in other fields and expresses water activity which can be calculated from the equation $a_w = (0,025 \times \text{g water}/100\text{g honey}) + 0,13$.

638.165.894.922. A

Negueruela, A. I.; Perez-Arquillue, C. **Color measurement of rosemary honey in the solid state by reflectance spectroscopy with black background.** *Journal of AOAC International* (2000) (3) 669-674, 7 fig., 24 ref.

The color of honey is a useful parameter for the characterization of the product and it has been used to typify and to set a market price. Rosemary honey is white after crystallization. The color of honey does not remain unalterable over a long period. Slow solidification induces a temporary darkening. Color analysis has always been performed with liquefied samples. The objective of the research was to measure the color of rosemary honey without liquefaction. Practical application is the measurement of reflectance with black background in cells of 1 cm pathlength for the color determination of rosemary honey.

638.166.A 632.95

Imparato, E.; Esposito, M.; Castellano, V. et al. **Determinazione di residui di piretroidi nel miele mediante GC-ECD e GC-MS.** [Method for the determination of pyrethroid insecticides in honey.] *Industrie Alimentari* (2000) 694-697, 2 fig., 14 ref.

A new method developed in Porticci in Italy. The proposed multiresidual method for the detection of synthetic pyrethroid insecticides in honey requires an extraction from honey by water/acetone mixture and successive purification by solid phase extraction. The extract is injected in a gaschromatograph equipped with an electron capture detector. Confirmatory analysis was done by gaschromatography/mass spectrometry. This method was developed mainly for honey.

638.166.A 632.95

Witkiewicz, W.; Romaniuk, K.; Witkiewicz, A. **Chlorowane węglowodory w roslinach entomofilnych i produktach pszczelich.** [Chlorinated hydrocarbons in entomophilic plants and bee products.] *Medycyna Wet.* (2000) (12) 782-784, 2 tab., 12 ref.

1996 to 1997 residues of HCH and DDT were observed in lime tree blossom, flowers and leaves of bilberry and flowers of dandelion. In the lime tree flowers HCH was found from 0,0339 microgram/g, DDT from 0,6170 microgram/g. The content of chlorinated hydrocarbons in bees was as follows: HCH 0,0165-0,0172 microgram/g s.l., in pollen 0,0072-0,0130 microgram/g s.l., bee bread 0,0078-0,0361 microgram/g s.l., in honey 0,0016-0,0068 microgram/g s.l. Content of DDT in bees 0,057-0,0104 microgram/g s.l., in pollen 0,0169-0,3621 microgram/g s.l., bee bread 0,0349-0,26,95 microgram/g s.l.

and in honey 0,0107-0,0111 microgram/g s.l. The amount of chlorinated hydrocarbons in the bees and bee products depended on the apiary site and to a lesser degree on the breed of bees. Caucasian bees collected the minimal amount of HCH and DDT in their honey.

638.167 615

Shamala, T. R.; Shri Lyothi, Y.; Salbaba, P. **Stimulatory effect of honey on multiplication of lactic acid bacteria under in vitro and in vivo conditions.** *Letters in Applied Microbiology* (2000) 453-455, 2 tab., 9 ref.

Lactic acid bacteria like other probiotics play an important role in the maintenance of human health. For this reason the study was directed on the effect of honey and sucrose on lactic acid bacteria in vitro and in rat gut. Under in vitro conditions the number of *Lactobacillus acidophilus* and *Lactobacillus plantarum* counts increased 10 to 100 fold in the presence of honey compared with sucrose. Feeding of honey to rats resulted in significance increase in counts of lactic acid bacteria. The honey fed group showed a significant increase in counts over the control and sucrose fed animals. The results show that consumption of honey has a beneficial effect on the physiological constitution of animals fed with it.

638.171

Mossner, E. **Wachsernte und -verarbeitung.** [Harvest and processing of beeswax.] *Die neue Bienenzucht* (2001) (2) 34-35.

Late winter time combs are examined and those which do not fulfil the strict requirements are melted during the year. Good combs should be without drone cells or only a small quantity with them. They should be used maximally after two broods and are to be without mould. Combs are stored hung in the loft, dry, aired, cold at 2 cm mutual distance. Combs are hung so that they may not be jeopardized by mice and wax moths. Beginning May and mainly June sun wax melter yields about 80 g beeswax from a comb. Wax is cleaned: 25 l pot with 5 l rain water, 7 kg raw wax is put into textile strainer. Pot is heated and damps melt wax which runs through strainer. Residues remain in the filter textile. When producing foundations the author prefers casting, because it is cheaper, no separation means and no additive softening is necessary. The work with wax requires permanent presence of the service.

638.171.8

Rubbert, J. **Bienenwachs heilt!** [Beeswax cures.] *Deutsches BienenJournal* (2001) (3) 31.

People who have their beds for sleeping on earth rays and water veins catch very easy illnesses. To remove the negative impact of the earth rays and water veins the author uses to put under the bed a box with beeswax and quartz sand. Both nature substances have no harmful impact, on the contrary according to the author this arrangement is to prevent afflictions, diseases and pains. Family of the author is an evidence of it. Under his marriage-bed the author has six boxes with beeswax covered with quartz sand. It is enough to apply a package of foundations covered with 5 cm layer of quartz sand.

638.178 615

Molan, P. C. **A brief review of honey as a clinical dressing.** *Primary Intention* (1998) (4) 148-158, 73 ref.

An editorial in the Journal of the Royal Society of Medicine indicates that the therapeutical potential of uncontaminated pure honey is under-utilised. The time has now come for conventional medicine to give it its due recognition. There is increasing interest in its use as a wound dressing material. The clinical observations recorded are a rapid clearing of infection, a quick reduction in inflammation, swelling, pain and odour, sloughing of necrotic tissue, a hastening of granulation and epitheliasation and rapid healing with minimal scarring. Unlike other topical antiseptics, honey causes no tissue damage. In animal studies it has been found histologically that it promotes the healing process. It has a direct nutrient effect and draws lymph out to the cells by osmosis. Stimulation of healing may also be due to the acidity of honey. Spreading honey on a dressing pad rather than the wound is much easier and less traumatic for the patient. Clinical trials have shown that honey is more effective than silver sulphadiazine and polyurethane film dressings for the treatment of superficial partial thickness burns. The author is associative professor of the University of Waikato, Department of Biological Sciences, Hamilton, New Zealand.

638.178.B 615

Bosio, K.; Avanzini, C.; D'Avolio; Ozino, O.; Savoia, D. **In vitro activity of propolis against *Streptococcus pyogenes*** *Letters in Applied Microbiology* (2000) (31) 174-177, 1 tab., 14 ref.

Streptococcus pyogenes is a pathogen responsible for several diseases in particular pharyngotonsillitis in children. Ethanolic extracts of two propolis specimens collected from different areas in the north-west of Italy were examined to evaluate their antimicrobial activity against 46 strains of this pathogen. Results of authors show the in vitro activity of propolis extracts and supports the utility of this natural remedy against the above mentioned micro-organism. With a simple microbiological assay technique, in particular the agar dilution method, it was possible to standardize the analysis of propolis samples to identify the quality parameters of this natural product before use for medical treatment. One of the two propolis samples was more active and this extract was richer in the flavonoids pinocembrin and galangin. The agar dilution method is an aid for the identification of the quality parameters of propolis before use for medical treatment.

638.4 595. 799. *Bombus*

Baer, B.; Schmid-Hempel, P. **The artificial insemination of bumblebee queens.** *Insectes soc.* (2000) 183-187, 4 fig.,

New technique to artificially inseminate bumblebee queens. Males are dissected and the accessory testes were removed and washed in insect ringer. They were then opened and the outflowing sperm was picked up with a glass capillary mounted on a syringe. A standard apparatus used for honeybee inseminations was adapted for the sperm transfer. The queen was anaesthetized with CO₂, held in place by a queen holder and the sting chamber was opened using two hooks. The sperm containing glass capillary was introduced into the queen's sexual tract. The sperm was released into the bursa copulatrix. Inseminated queens were hibernated for two weeks and produced a normal colony under field conditions. Insemination was successful for *Bombus terrestris*, *B. lucorum* and *B. hypnorum*. A potential drawback of the method is that queens do not hibernate as successfully. This may be related to anesthetization with CO₂ and not to the insemination procedure.

7. 04

Rothaar, B. **Wildwuchs in Tunesien.** [Art in dialogue with a honeybee colony.] *Deutsches BienenJournal* (2000) (1) 7, 3 fig.

The authoress, an artist, works on a project which is based on putting her art objects into hives as bees may build their combs on them. Now she prepares the same project in Tunisia which is to be realized in April 2001. Bees of that country are very aggressive. As a reward for the assistance at the project the authoress organizes collection of bee protection devices and suits for Tunisian beekeepers.

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