



# MEDICINAL BEEKEEPING FOR BEEKEEPERS (MEDI-BEEB)

# General needs analysis report

























# Medical beekeeping for beekeepers (MEDI-BEEB)

Project No: 2021-1-TR01-KA220-VET-000034632

# **MEDI-BEEB** General needs analysis report



Aydin Adnan Menderes Universitesi-Türkiye



Çanakkale Onsekiz Mart Universitesi--Türkiye



Aydin İli Ari Yetiştiricileri Birliği-Türkiye



Vytauto Didziojo Universitetas - Lithuania



Wroclaw University of Environmental and Life Sciences - Poland



Confederazione Italiana Agricoltori Regionale Umbria - Italy





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# MEDI-BEEB NEEDS ANALYSIS REPORT IN TÜRKIYE



Aydin Adnan Menderes Universitesi-Türkiye



Çanakkale Onsekiz Mart Universitesi--Türkiye



Aydın İli Ari Yetiştiricileri Birliği-Türkiye

#### **2022-TURKİYE**

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# Needs Analysis Report in Türkiye - Authors



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Prof. Dr. Murat YILMAZ, Alkan CAGLI, Selda MANAV, Hasan COGAN



#### **Canakkale Onsekiz Mart University**

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**Aydin Province Beekeepers Union** 

Bircan AKPINAR, Emel AKSEL





# Needs Analysis Report in Türkiye - General information

In Türkiye, a face-to-face survey was conducted with 351 beekeepers operating in region of Aydın Adnan Menderes University, Aydın Province Beekeepers' Association (248 questionnaires) and Canakkale Onsekiz Mart University (103 questionnaires) . The survey results were analysed and interpreted by Aydın Adnan Menderes University and Canakkale Onsekiz Mart University.

# Needs Analysis Report in Türkiye – Responders' profile

#### Question No. 1. Your gender?

The vast majority of respondents were men (97%).

Figure 1. Gender of responders in Türkiye





#### Question No. 2. Your age?

Three percent of the respondents were between the ages of 18-24, 4% were between 25-31, 11% were between 32-38, 33% were between 39-45, and 46% were aged 46 and over. Four percent of the participants did not want to report their age.

Figure 2. Age of esponders in Türkiye respondents 4% 3% 11% 33% 46% 4% 18-24 25-31 32-38 39-45 no ≥46 answer age /years/

Question No. 3. Your education?

Of the respondents, 187 were primary school graduates, 3 were graduates, 73 were high school graduates, 2 were literate and 49 were university graduates. Ten percent of the participants did not want to give information about their educational status.

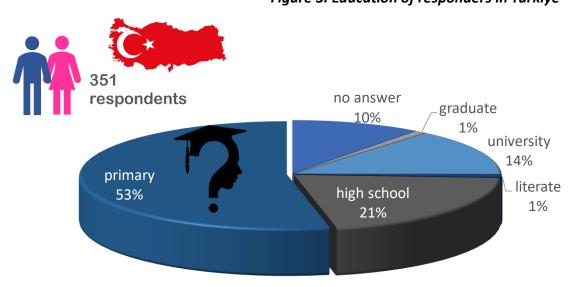


Figure 3. Education of responders in Türkiye





#### Question No. 4. Your profession?

Of the respondents, 28% were farmers, 9% were self-employed, 5% were tradesmen, 6% were civil servants, 22% are beekeepers, and 8% are retired. Eighteen percent of the participants did not want to report their profession.

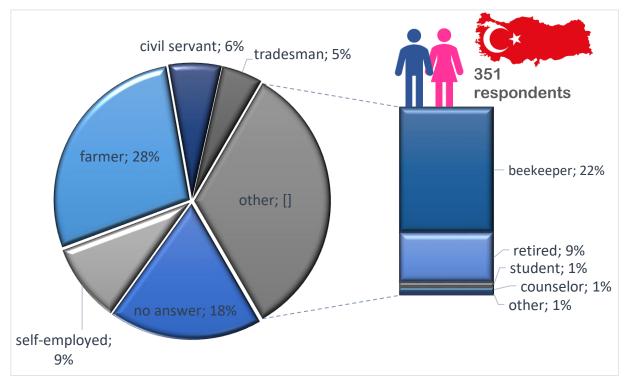


Figure 4. Profession responders in Türkiye

# Needs Analysis Report in Türkiye – Responders' beekeeping profile

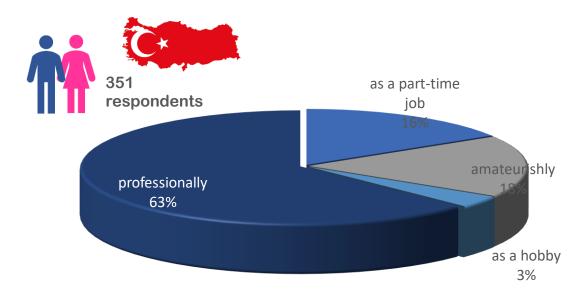
#### Question No. 5. How do you do beekeeping?

Sixty six percent of the beekeepers participating in the survey reported that they do beekeeping professionally, 18% as an amateur, 16% as a side job and 3% as a hobby.





Figure 5. Beekeeping type of responders in Türkiye



#### Question No. 6. What is your beekeeping style?

Of the beekeepers participating in the survey, 74% reported that they have wanderer apiaries and 26 declared to be stationary beekeepers.

351
respondents
stationary
26%
wanderer
74%

Figure 6. Apiary form of responders in Türkiye





#### Question No. 7. Where do you locate your bee hives?

The beekeepers participating in the survey reported that 6% of them positioned their bee hives close to the asphalt road, 6% close to the city, 52% in the forest areas, and 31% close to the fields and gardens.

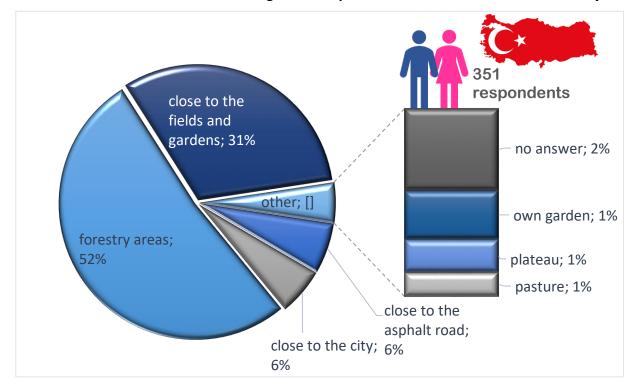


Figure 7. Responders' bee hives localization in Türkiye

#### Question No. 8. How did you start beekeeping?

Of the beekeepers who participated in the survey, 45% reported that they learned about beekeeping with an expert beekeeper, 21% took a course, 11% learned it by themselves, and 9% learned it from their ancestors. However, 11% did not give any answer.





by attending the courses; 21%

other; []

with an expert beekeeper; 45%

with a faculty teacher; 1%

Figure 8. Start with beekeeping of trsponders in Türkiye

#### Question No. 9. Which bee products do you produce?

351 of the beekeepers participating in the survey reported that they produce honey, 151 propolis, 11 packet bees, 286 pollen, 35 royal jelly, 248 bee wax and 77 queen bees.

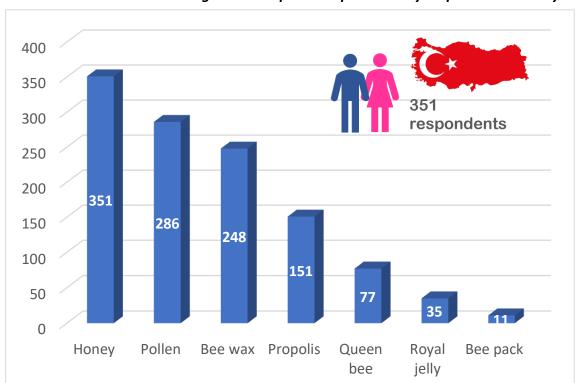


Figure 9. Bee products produced by responders in Türkiye





#### Question No. 10. Which honey types do you harvest?

Of the beekeepers participating in the survey, 308 reported that they produced pine, 184 sunflower, and 8 spring honey.

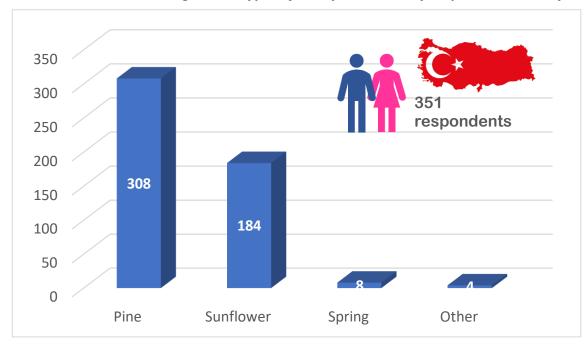


Figure 10. Types of honey harvested by responders in Türkiye

Question No. 11. During which period do you harvest flower honey?

Five of the beekeepers who participated in the survey reported that they harvested secretion honey such as floral honey before the comb was glazed, 133 when the comb was fully glazed, and 215 when 2/3 of the comb was glazed.

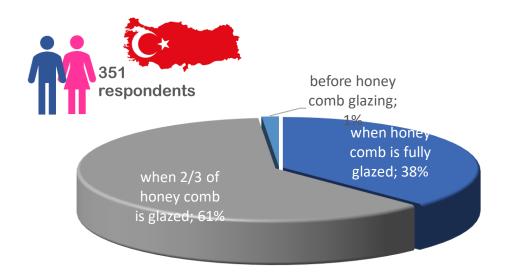


Figure 11. Period of floral honey harvesting by responders in Türkiye





# Question No. 12. During which period do you harvest secretion (e.g. pine, honeydew) honey?

Five of the beekeepers who participated in the survey reported that they harvested secretion honey such as floral honey before the comb was glazed, 105 when the comb was fully glazed, and 225 when 2/3 of the comb was glazed

when 2/3 of honey comb is glazed; 64%

when 2/3 of honey comb is glazed; 64%

before honey comb glazing; 1%

Figure 12. Period of secretion (e.g. pine, honeydew) honey harvesting by responders in Türkiye

#### Question No. 13. What must the water ratio be in the honey harvested?

199 of the beekeepers who participated in the survey stated that the water ratio in the harvested honey should be between 16-18%, 106 said it should be less than 16%, and 46 said it should be between 18-20





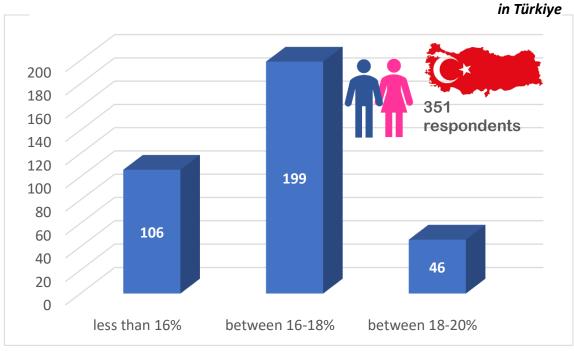


Figure 13. Required water content in harvested honey according to responders

#### Question No. 14. How do you store honey?

316 of the beekeepers who participated in the survey reported that they store honey in cans, 28 in jars, 2 in carboys and 14 in tanks. 2 participants did not give any answer to this question.

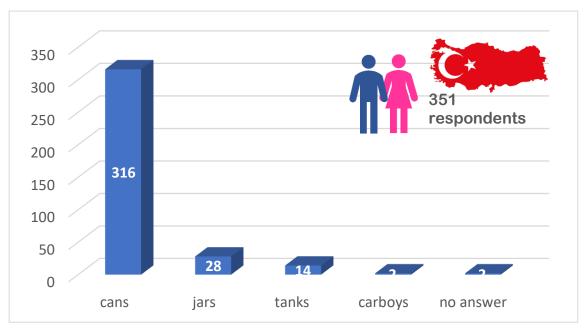


Figure 14. Methods of honey storage according to responders in Türkiye





#### Question No. 15. How do you market the honey?

Fifty six percent of the beekeepers participating in the survey reported that they market their honey to friends, 7% via social media, 3% to markets as branded, and 30% to dealers. Two percent of responders did not answer this question.

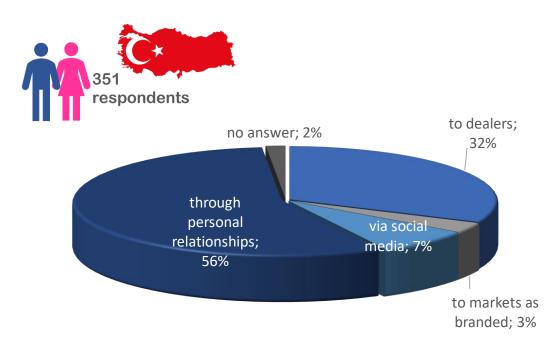


Figure 15. Ways of honey sale according to responders in Türkiye

#### Question No. 16. How do you produce propolis?

Thirty four percent of the surveyed beekeepers reported that they produced propolis by hive scraping method, 21% by comb scraping, 12% by flight hole cleaning and 12% by using propolis trap. Twenty one percent of the participants did not answer this question.

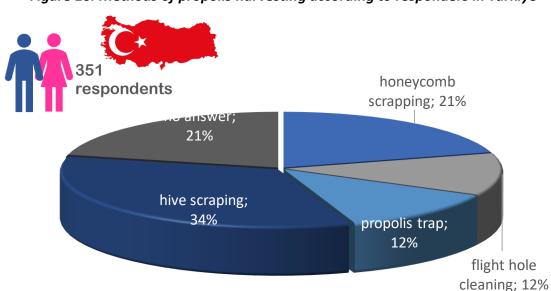


Figure 16. Methods of propolis harvesting according to responders in Türkiye





#### Question No. 17. How do you market propolis?

Twenty nine percent of the surveyed beekeepers reported that they marketed propolis as raw-without processing and 20% as a solution in bottles. However, 27% of the participant beekeepers stated that they did not sale it. 24% of the participants did not answer this question.

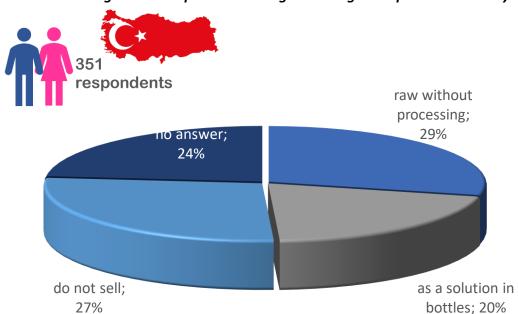


Figure 17. Propolis marketing according to responders in Türkiye

#### Question No. 18. How much is your annual pollen production?

One hundred and thirteen of the surveyed beekeepers reported that their annual pollen production amount was less than 20 kg, 36 of them between 20-50 kg, 38 of them between 50-100 kg and 143 of them more than 200 kg. Twenty one participants did not answer this question.





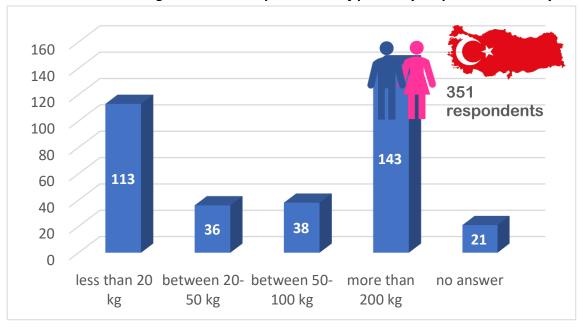


Figure 18. Annual production of pollen by responders in Türkiye

#### Question No. 19. How do you collect pollen?

Thirteen percent of the surveyed beekeepers reported that they collected the pollen with the assembly placed on the flight board and 81% with the pollen trap floor. Six percent of participants did not answer this question.

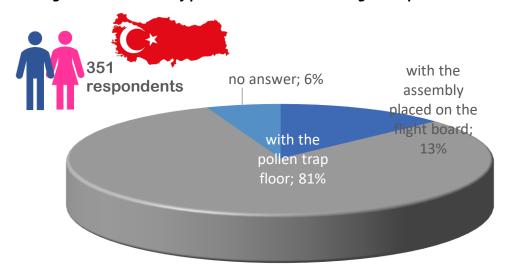


Figure 19. Methods of pollen collection according to responders in Türkiye





#### Question No. 20. How do you store pollen?

Forty one percent of the surveyed beekeepers stated that they stored the pollen by drying and 41% said that they kept the pollen in a plastic bag and deep freeze. Ten percent participants reported that they stored the pollen in the bag at -20 degrees. Eight percent of participants did not answer this question.

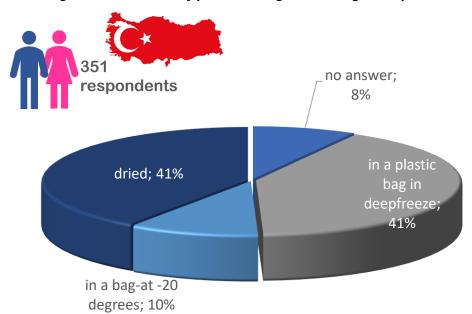


Figure 20. Methods of pollen storage according to responders in Türkiye

#### Question No. 21. If you produce bee bread, how much is your annual production?

Three hundred and one of the beekeepers participating in the survey reported that they do not produce bee bread. 15 of them stated that they produced as much as their food, 11 of them 10kg, 3 of them 20kg and 6 of them 50kg. 15 participants did not answer this question.





45 40 35 respondents 30 25 44 20 15 18 10 16 12 10 5 0 do not 10 kg 20 kg 50 kg as much produce as to eat

Figure 21. Annual bee bread production by responders in Türkiye

#### Question No. 22. What is drone larvae used for?

Forty two percent of the beekeepers who participated in the survey said that drone larvae are beneficial for health, 4% of them said that it regulates breathing, and 36 of them stated that it increases the male hormone. However, 12% of the participants evaluated it as "not very useful". 24% participants stated that this larva was unnecessary and therefore it was thrown out of the hive when the time came. 3% participants gave no answer to this question.

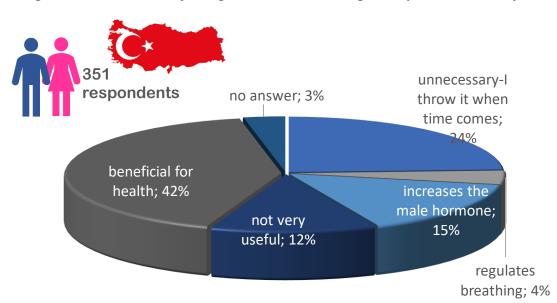


Figure 22. Possibilities of using the larvae according to responders in Türkiye





#### Question No. 23. If you are producing royal jelly, how do you store it?

Seventeen percent of the beekeepers participating in the survey reported that they kept the royal jelly they produced in the refrigerator, 4% in a cool dry place and 20% in the deep freezer. 59% of them did not report any answer on this question.

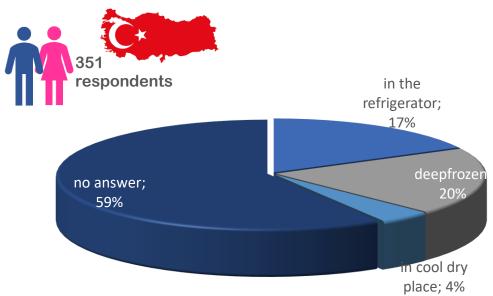


Figure 23. Methods of royall jelly storage according to responders in Türkiye

#### Question No. 24. Why don't you produce bee venom?

183 of the beekeepers who participated in the survey explained the reason why they did not produce bee venom on the grounds that they did not know about it. 45 participants stated that there was no market for this product, 65 participants stated that there was not enough equipment for this product and 74 participants stated that this equipment was expensive and they did not produce it for these reasons. 5 participants did not answer this question





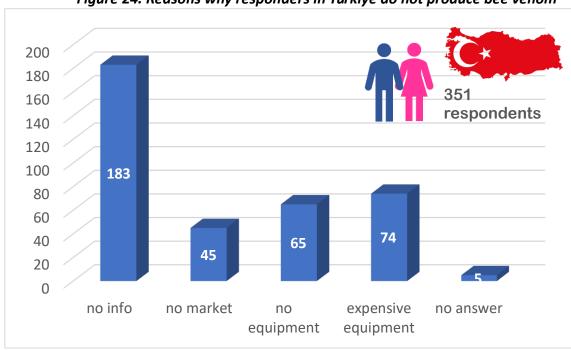


Figure 24. Reasons why responders in Türkiye do not produce bee venom

#### Question No. 25. Do you know what "apitherapy" is?

50% of the beekeepers who participated in the survey reported that they did not know about apitherapy and 50%. One person did not answer the question.

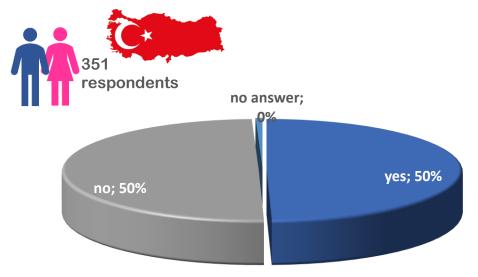
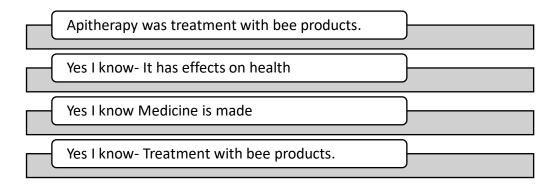


Figure 25. Knowledge of responders in Türkiye on apitherapy





#### Most often suggested by responders definitions:



#### Question No. 26. What are your thoughts on the use of drugs in the hive?

Beekeepers participating in the survey expressed their opinions about the use of drugs in the hive. While 24% of the participants said "I pay attention to the active substance of the drugs", 51% said "I pay attention to the periods of use of the drugs" and 25% answered that "it is only important for me to be effective".

It is only important for me to be effective; 25%

I pay attention to the active substance of the drugs; 24%

It is only important for me to be effective; 25%

Figure 26. Attitude of responders in Türkiye to the use of drugs in the hive





### Needs Analysis Report in Türkiye – Summary

- \* It can be said that young people do beekeeping, albeit in a small number, but people aged 45 and over do more beekeeping. In general, many beekeepers are primary school graduates. It is an important finding that 122 out of 351 people who participated in our survey are high school and university graduates
- \* 22% of the 351 people who participated in the survey only make beekeeping as a profession. It has been observed that the rest of the people consist of different occupational groups or retired individuals.
- \* 220 of the beekeepers participating in the survey stated that they do beekeeping professionally, 62 as an amateur, 57 as a part time job and 12 as a hobby.
- \* Most of the beekeepers in Türkiye are mobile beekeepers. 6% of beekeepers keep their hives near the asphalt and 6% of them keep their hives in the area close to the city settlement.
- \* It has been observed that 21% beekeepers has taken courses on beekeeping.
- \* Beekeepers engaged in beekeeping reported that they also produce other bee products besides honey. All beekeepers do beekeeping to produce and sell honey. However, different information is given about the harvesting form and harvesting period of honey.
- \* Only 12% of the beekeepers surveyed reported that they produced propolis using propolis traps.
- \* 46 of the beekeepers who participated in the survey reported that they collected the pollen with the mechanism placed on the flight board and 285 with the floor with the pollen trap.
- 143 of the beekeepers who participated in the survey stated that they dry the pollen,
   146 of them stored it in a deep freeze in a plastic bag and 36 in a bag at -20 degrees.
- \* It has been observed that the majority of bee producers participating in the survey do not have sufficient knowledge about the production and use of bee bread, royal jelly, bee venom and bee larvae.





\*\*\*As one of the facts revealed in this study, it is a very important result that the majority of beekeepers do not know what APITHERAPY is.

- In conclusion, as a result of this survey, it can be said that beekeepers do not know what apitherapy is and they need to receive serious training on the use of bee products in apitherapy.

It has been concluded that beekeepers focus on honey production and they do beekeeping to make money from honey and they do not have enough information about the properties of other bee products and especially for the use of these products in the field of health, production, storage and marketing.

This project has been prepared with the aim of informing beekeepers about the importance of apitherapy in the field of health and the correct and healthy production of bee products to be produced for apitherapy and with the aim of educating them on this subject. As a result of this survey, it has been seen that the outputs of this project will be very important in terms of teaching beekeepers that focus only on honey production, apitherapy and the production of products to be used in apitherapy.

#### It can be said as a result that:

Beekeepers should be trained on apitherapy, on the properties of bee products to be used in apitherapy and the correct production, storage and marketing principles of bee products to be used in the field of health.

Consumers and especially doctors should be informed that the healthy production of bee products to be used in the field of health and the proper storage conditions are of great importance for apitherapy.

Awareness should be raised about the rules and legislators, especially in Turkey, the relevant units of the ministry of agriculture to bring some standards and certification studies for beekeepers that will produce and market bee products for apitherapy.







# **Medical Beekeeping for Beekeepers**

Project No: 2021-1-TR01-KA220-VET-000034632

# MEDI-BEEB NEEDS ANALYSIS REPORT IN LITHUANIA



# **Vytautas Magnus University**

2022- Lithuania

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# Needs Analysis Report in Lithuania - Authors



# **Vytautas Magnus University**

Assoc. Prof. Dr. Anželika DAUTARTĖ
Prof. Dr. Virginija DULSKIENĖ





# Needs Analysis Report in Lithuania – General information

In Lithuania, a questionnaire was used to do the National Need Analysis. The beekeepers were asked to fill out the survey. The platform for national surveys, https://apklausa.lt/, was used to create the online survey. Information about the survey was shared through the Lithuanian Professional Beekeepers Association "Austėja," the Lithuanian Beekeepers Union, the Lithuanian Beekeepers Association, and the Facebook groups Beekeepers and Lithuanian Beekeepers. In all, 100 answers have been gathered.

### Needs Analysis Report in Lithuania – Responders' profile

Question No. 1. Your gender?

Figure 1. Gender of responders in Lithuania

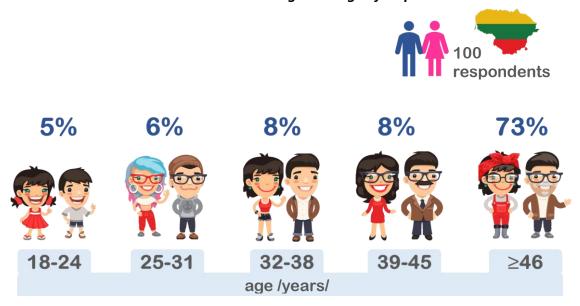






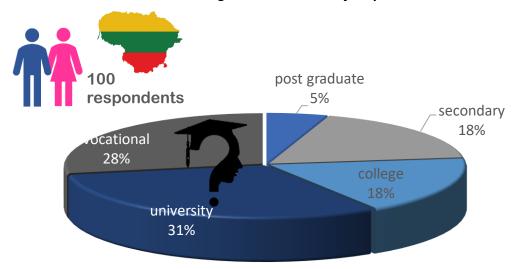
#### Question No. 2. Your age?

Figure 2. Age of responders in Lithuania



#### Question No. 3. Your education?

Figure 3. Education of responders in Lithuania







#### Question No. 4. Your profession?

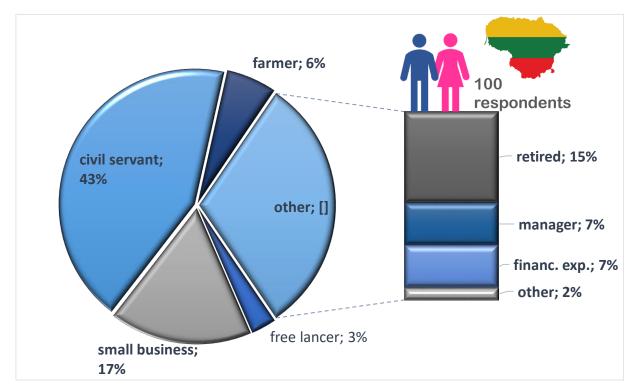


Figure 4. Profession of responders in Lithuania

# Needs Analysis Report in Türkiye – Responders' beekeeping profile

#### Question No. 5. How do you do beekeeping?

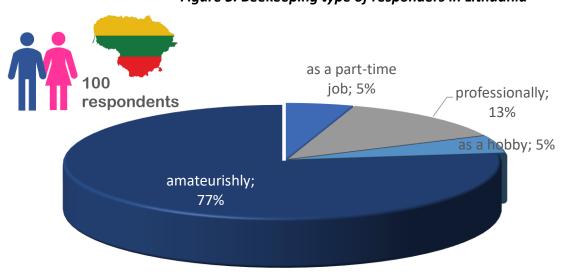


Figure 5. Beekeeping type of responders in Lithuania





#### Question No. 6. What is your beekeeping style?

respondents

wanderer;

4%

stationary;

96%

Question No. 7. Where do you locate your bee hives?

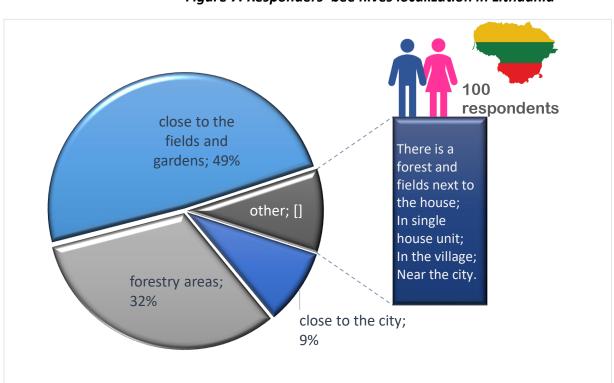


Figure 7. Responders' bee hives localization in Lithuania





#### Other:

There is a forest and fields next to the house;

In single house unit;

In the village;

Near the city.

#### Question No. 8. How did you start beekeeping?

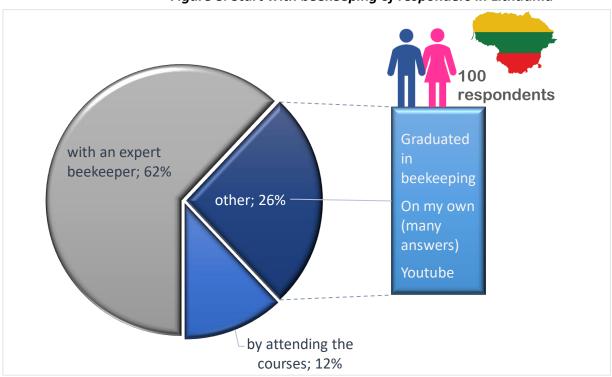


Figure 8. Start with beekeeping of responders in Lithuania

#### Other:

Graduated in beekeeping as a beekeeper technologist

On my own (many answers)

Based on the book: Kriščiūnas, Jonas. Bitininkystė (Beekeeping). Vilnius: 1961.

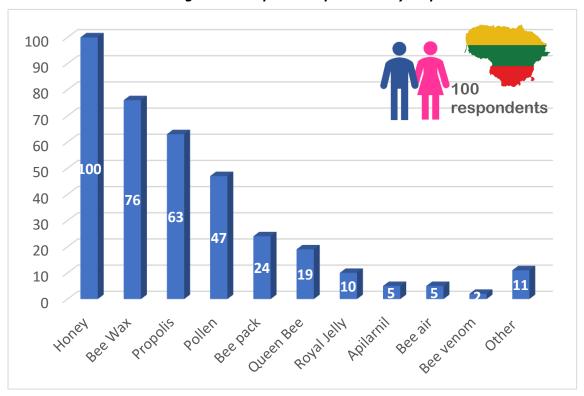
Youtube





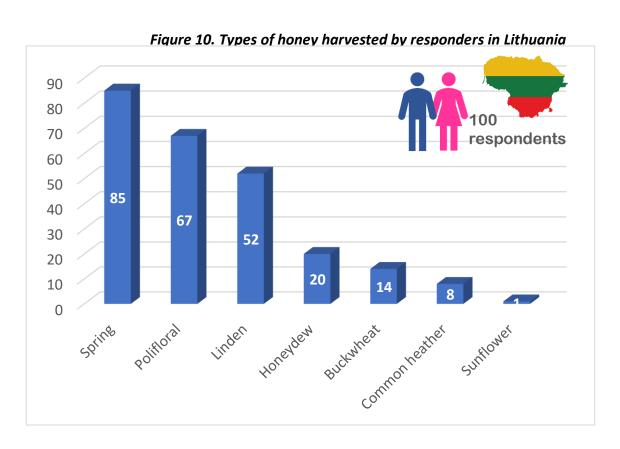
#### Question No. 9. Which bee products do you produce?

Figure 9. Bee products produced by responders in Lithuania



Other: Ointments Bee bread. Mixtures of honey

#### Question No. 10. Which honey types do you harvest?

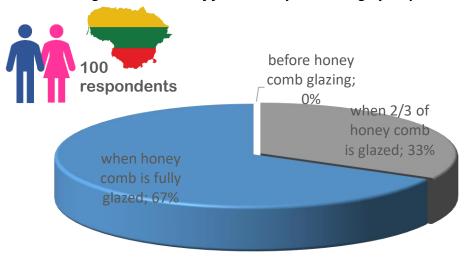






#### Question No. 11. During which period do you harvest flower honey?

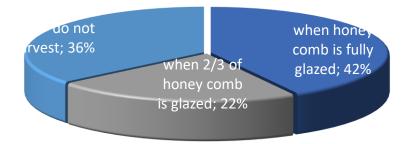
Figure 11. Period of floral honey harvesting by responders in Lithuania



Question No. 12. During which period do you harvest secretion (e.g. pine, honeydew) honey

Figure 12. Period of secretion (e.g. pine, honeydew) honey harvesting by responders in Lithuania



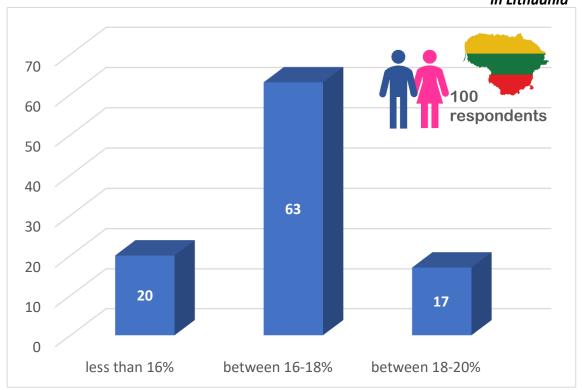






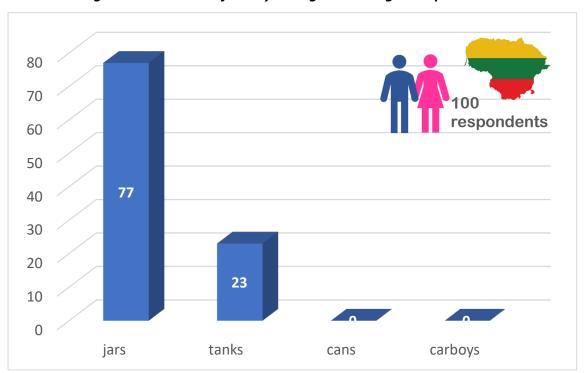
#### Question No. 13. What must the water ratio be in the honey harvested?

Figure 13. Required water content in harvested honey according to responders in Lithuania



Question No. 14. How do you store honey?

Figure 14. Methods of honey storage according to responders in Lithuania







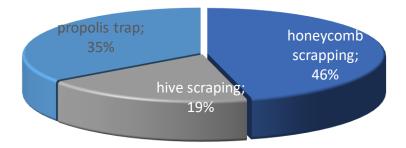
#### Question No. 15. How do you market the honey?

Through personal relationships; 62%

#### Question No. 16. How do you produce propolis?

Figure 16. Methods of propolis harvesting according to responders in Lithuania





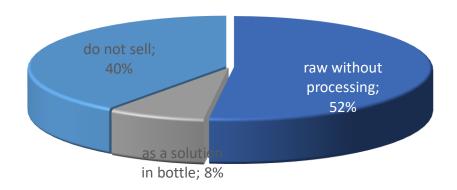




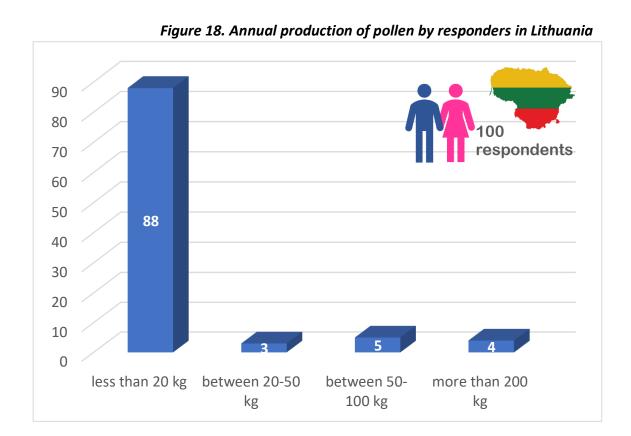
#### Question No. 17. How do you market propolis?

Figure 17. Propolis marketing according to responders in Lithuania





#### Question No. 18. How much is your annual pollen production?

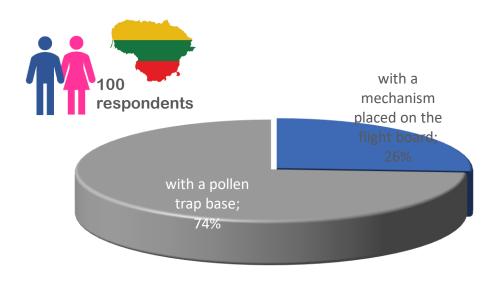


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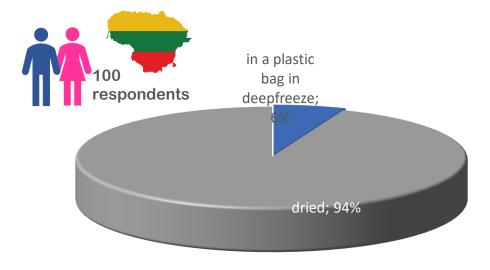


#### Question No. 19. How do you collect pollen?



#### Question No. 20. How do you store pollen?

Figure 20. Methods of pollen storage according to responders in Lithuania







#### Question No. 21. If you produce bee bread, how much is your annual production?

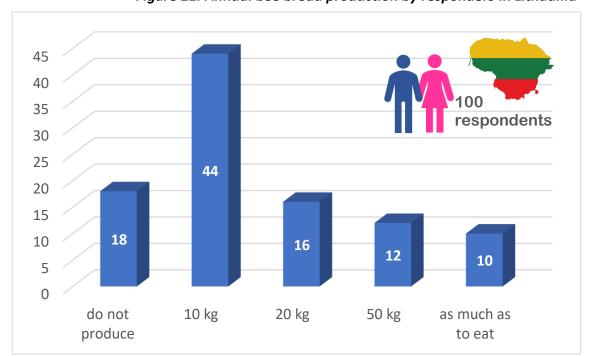


Figure 21. Annual bee bread production by responders in Lithuania

Question No. 22. What is drone larvae used for?

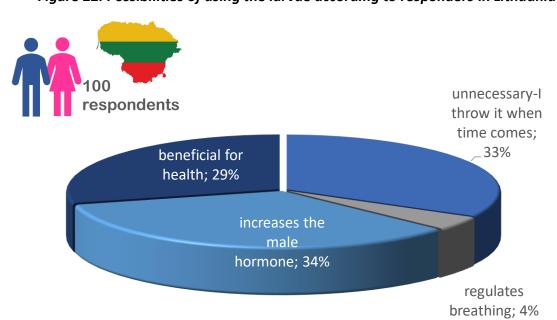


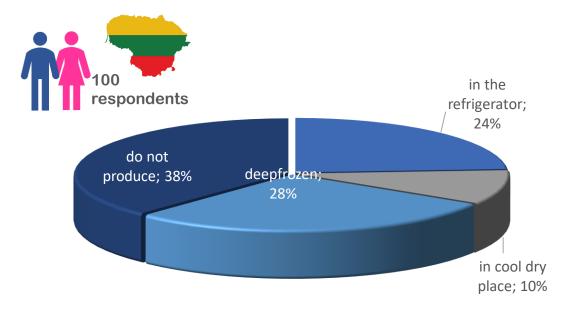
Figure 22. Possibilities of using the larvae according to responders in Lithuania

Question No. 23. If you are producing royal jelly, how do you store it?





Figure 23. Methods of royall jelly storage according to responders in Lithuania



#### Question No. 24. Why don't you produce bee venom?

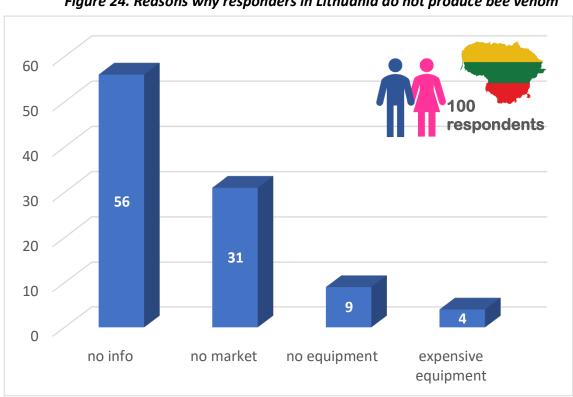


Figure 24. Reasons why responders in Lithuania do not produce bee venom

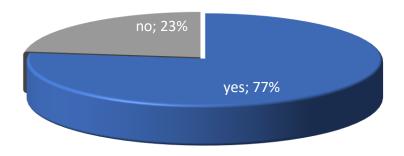




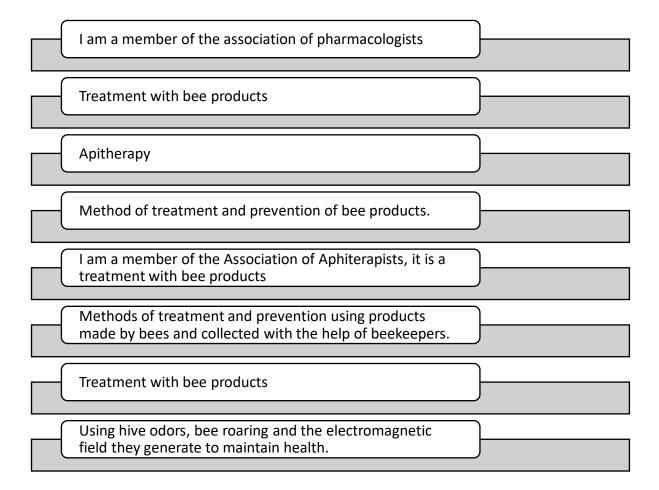
#### Question No. 25. Do you know what "apitherapy" is?

Figure 25. Knowledge of responders in Lithuania on apitherapy



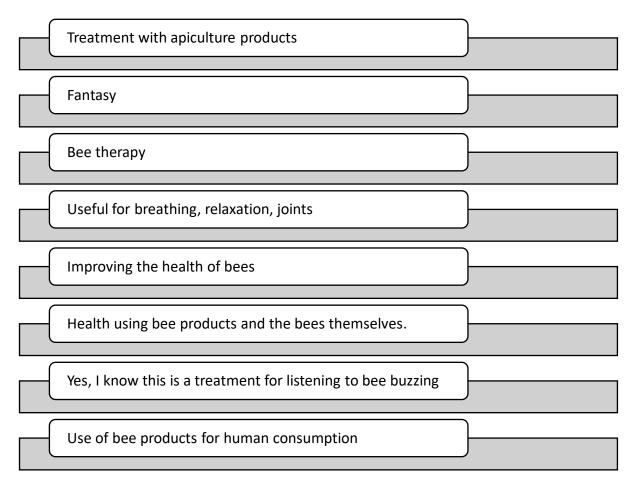


#### Most often suggested by responders definitions:



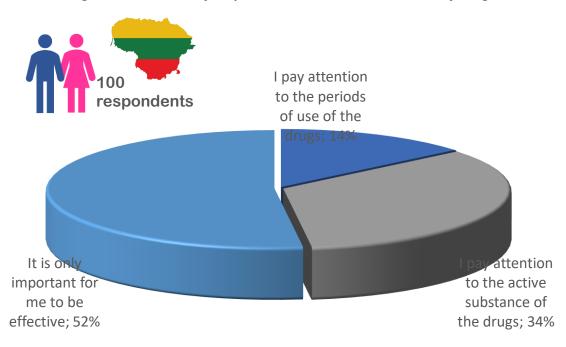






Question No. 26. What are your thoughts on the use of drugs in the hive?

Figure 26. Attitude of responders in Lithuania to the use of drugs in the hive







## Needs Analysis Report in Lithuania – Summary

- \* The following was the general respondent profile: 73 % of participants were men, and the age group of 46 and up predominated (73 %). In terms of education, 31 % of respondents have a university degree, 28 % have vocational training, and 43 % are civil servants.
- \* 77 % of beekeepers are amateurs, 13 % are professionals, the stationary form predominates (96 %), and beehives are located near fields (49 %) or in forest areas (32 %).
- \* Beekeeping began primarily with an expert beekeeper (62%), but some respondents began on their own, relying on knowledge from books or mass media.
- \* All beekeepers produce honey, other main bee products are bee wax (76 %) and propolis (63%).
- \* Regarding the honey, 85% produce spring, 67% polifloral, 52% linden honey. Honeydew, buckwheat and common heather honey are produced as well.
- \* 67 % of respondents harvest flower honey and 42% secretory honey types like honeydew honey when the honeycomb is fully glazed, 36% do not harvest secretory honey types like honeydew honey. More than half of respondents (63%) believe, that in harvested honey water ratio should be 16-18%.
- \* Honey is mostly collected in jars (77%) and sold to close friends and relatives (62 %).
- \* 46 % of respondents produce propolis by scraping honeycombs or trapping propolis (35 %), 52 % of propolis is sold raw unprocessed, and 40 % of beekeepers do not sell propolis at all.
- \* 88 % of respondents produce less than 20 kg of pollen, primarily collecting with pollen trap bases (74%) and storing by drying (94 % ).
- \* About 44 % of beekeepers produce about 10 kg of bee bread, 16 % produce about 20 kg, and 18 % do not produce at all.
- \* 34 % of respondents believe, that drone larva increases male hormone, 33 % it is unnecessary and remove it from the hive, while 29% believe it is beneficial to health.





- \* Almost 2/5 (38%) of respondents do not produce Royal jelly, while those who do store it in deep freeze (28 %) and in the refrigerator (24 % ).
- \* The main reason for not producing bee venom (56 %) is a lack of information, as well as a lack of a market (31 % ).
- \* Apitherapy is known to 77 % of respondents.
- \* In the hive, only the effectiveness of the drug is important to 52 % of respondents; the active ingredients of the drug are important to 34 % of respondents.







# **Medical Beekeeping for Beekeepers**

Project No: 2021-1-TR01-KA220-VET-000034632

# MEDI-BEEB NEEDS ANALYSIS REPORT IN POLAND



## Uniwersytet Przyrodniczy we Wrocławiu

#### 2022- Poland

(The European Commission's support for the production of this publication does not constitute an endorsement of content that reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein)





# Needs Analysis Report in Poland - Authors

# Uniwersytet Przyrodniczy we Wrocławiu

Assoc. Prof. Dr. Barbara KRÓL Dr. Maja SŁUPCZYŃSKA





## Needs Analysis Report in Poland – General information

In Poland, a survey was used to conduct the National Need Analysis (Google app was used to create the online questionnaires).



Information about the survey was shared through the Polish Professional Beekeepers Associations (19 beekeepers associations from various regions of Poland: Stowarzyszenie Pszczelnicze Rzeczpospolitej Polskiej We Wrocławiu, Dolnośląski Związek Pszczelarzy we Wrocławiu, Koło Pszczelarzy Wrocław Fabryczna, Polski Związek Pszczelarski, Świętokrzyski Związek Pszczelarzy w Kielcach, Regionalny Związek Pszczelarzy w Toruniu, Wojewódzki Związek Pszczelarzy w Poznaniu, Wojewódzki Związek Pszczelarzy w Poznaniu, Wojewódzki Związek Pszczelarzy w Łodzi, Lubuski Związek Pszczelarzy, Regionalny Związek Pszczelarzy w Częstochowie, Wojewódzki Związek Pszczelarzy w Szczecinie, Śląski Związek Pszczelarzy w Katowicach, Wojewódzki Związek Pszczelarzy w Rzeszowie, Wojewódzki Związek Pszczelarzy





w Lublinie, Wojewódzki Związek Pszczelarzy w Olsztynie, Wojewódzki Związek Pszczelarzy w Gdańsku, Wojewódzki Związek Pszczelarzy w Krakowie, Podlaski Związek Pszczelarzy w Białymstoku) as well as the Facebook groups for persons involved (9 Facebook groups: Pszczelarstwo moje Hobby, Giełda pszczelarska, Wszystko czego potrzebuje pszczelarz, Klub pszczelarski, Pszczelarstwo.PL, Pszczelarstwo amatorskie, Apiterapia, Giełda Miodu, Polski miód i produkty pszczele, Pszczelarstwo z Pasją, Api-domek i apiterapia).

The questionnaire consisted of 4 questions about personal information and 22 questions about their activities related to beekeeping. The beekeepers were asked to fill out the survey. In all, 106 answers have been gathered.

## Needs Analysis Report in Poland – Responders' profile

#### Question No. 1. Your gender?

75% MANAGO 22%





#### Question No. 2. Your age?

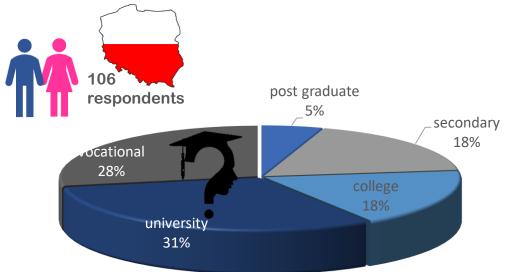
Figure 2. Age of responders in Poland





#### Question No. 3. Your education?

Figure 3. Education of responders in Poland







#### Question No. 4. Your profession?

civil servant; 16%

farmer; 18%

other; []

free lancer; 6%

Figure 4. Profession of responders in Poland

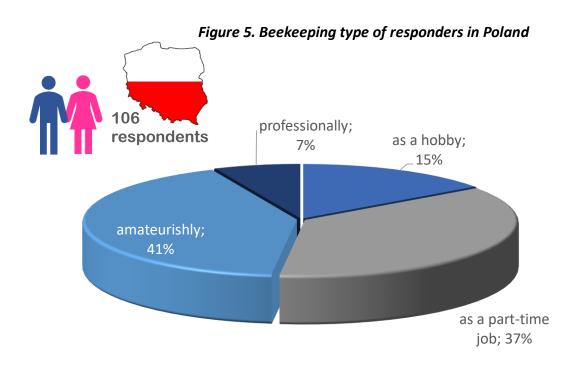
Other: In section other "retired" was the highest percentage of responses (8%). Moreover, the respondents answered: management staff, teacher, IT worker, sales representative, sales representative, professional driver, veterinarian, beekeeping technician, student.



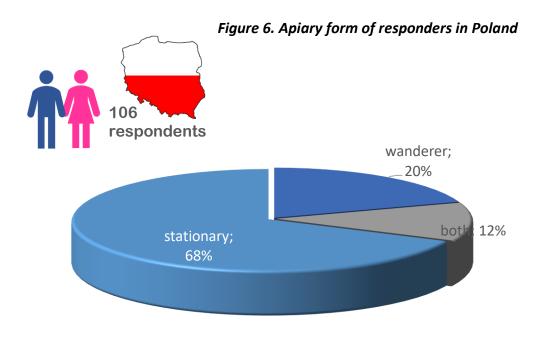


# Needs Analysis Report in Poland – Responders' beekeeping profile

#### Question No. 5. How do you do beekeeping?



#### Question No. 6. What is your beekeeping style?



Question No. 7. Where do you locate your bee hives?





close to the fields and gardens; 47%

forestry areas; 32%

close to the civ; 17%

close to the asphalt road; 2%

Figure 7. Responders' bee hives localization in Poland

In section other respondents answered: near small city, plot of land, city apiary

#### Question No. 8. How did you start beekeeping?

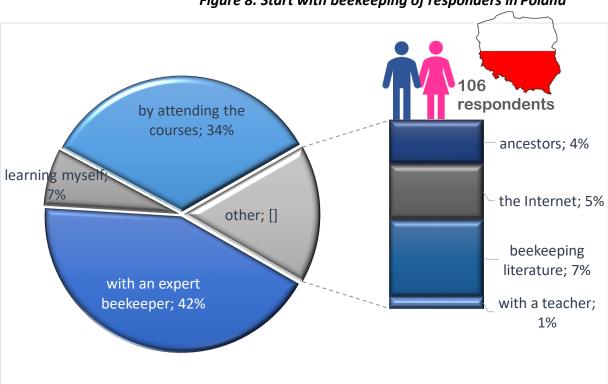


Figure 8. Start with beekeeping of responders in Poland





#### Question No. 9. Which bee products do you produce?

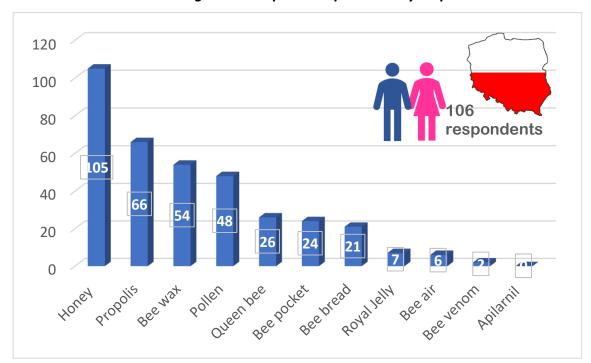


Figure 9. Bee products produced by responders in Poland

Question No. 10. Which honey types do you harvest?

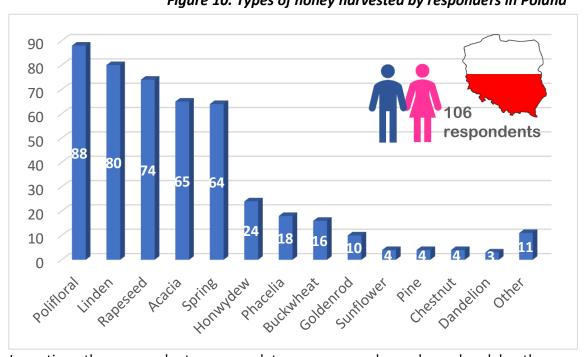


Figure 10. Types of honey harvested by responders in Poland

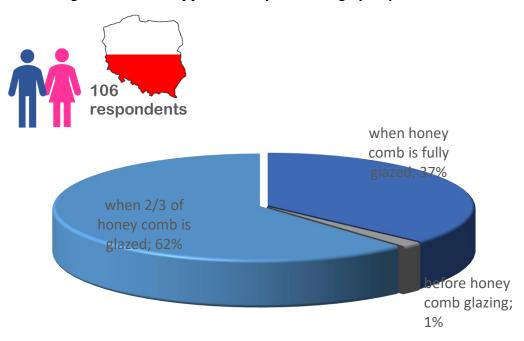
In section other respondents answered: taraxacum, raspberry, loggerhead, heather.





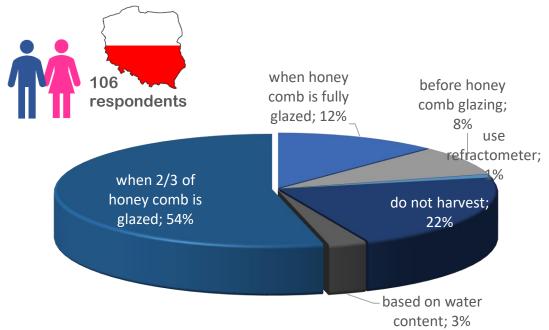
#### Question No. 11. During which period do you harvest flower honey?

Figure 11. Period of floral honey harvesting by responders in Poland



#### Question No. 12. During which period do you harvest secretion (e.g. pine, honeydew) honey

Figure 12. Period of secretion (e.g. pine, honeydew) honey harvesting by responders in Poland







#### Question No. 13. What must the water ratio be in the honey harvested?

in Poland 70 60 respondents 50 40 62 30 20 23 21 10 0 less than 16% between 16-18% between 18-20%

Figure 13. Required water content in harvested honey according to responders

Question No. 14. How do you store honey?

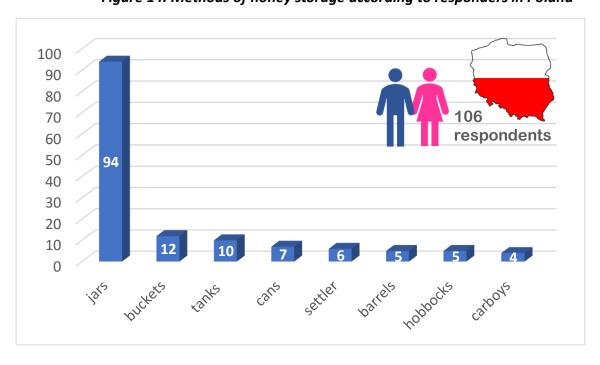


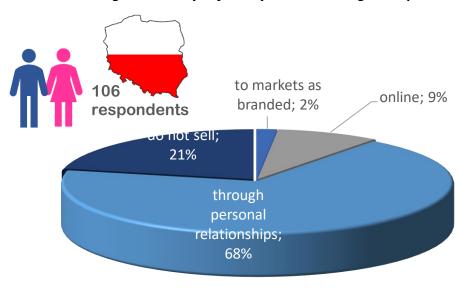
Figure 14. Methods of honey storage according to responders in Poland





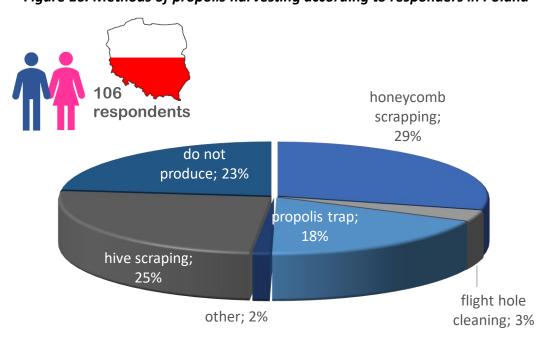
#### Question No. 15. How do you market the honey?

Figure 15. Ways of honey sale according to responders in Poland



#### Question No. 16. How do you produce propolis?

Figure 16. Methods of propolis harvesting according to responders in Poland







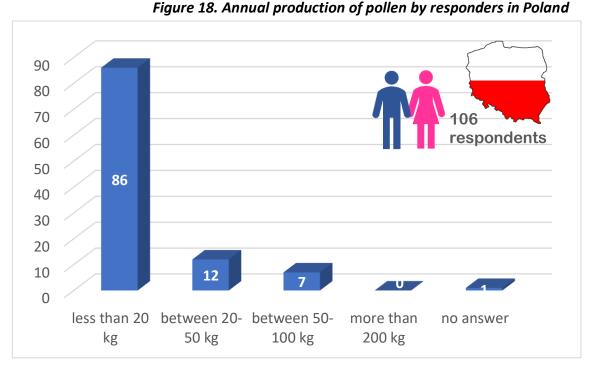
as a solution in bottle; 6%

#### Question No. 17. How do you market propolis?

as a gift for firends; 1% raw without processing; 28%

Figure 17. Propolis marketing according to responders in Poland

Question No. 18. How much is your annual pollen production?

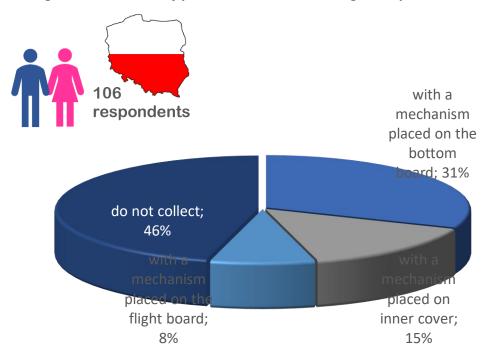






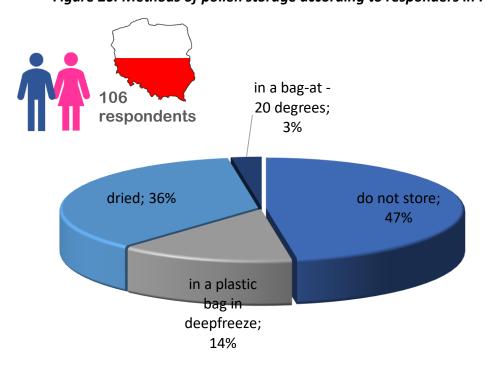
#### Question No. 19. How do you collect pollen?

Figure 19. Methods of pollen collection according to responders in Poland



Question No. 20. How do you store pollen?

Figure 20. Methods of pollen storage according to responders in Poland







#### Question No. 21. If you produce bee bread, how much is your annual production?

90 80 70 espondents 60 50 87 40 30 20 10 12 0 do not 10 kg 20 kg 50 kg as much as produce to eat

Figure 21. Annual bee bread production by responders in Poland

Question No. 22. What is drone larvae used for?

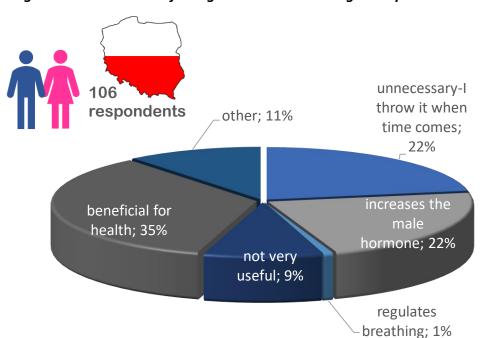


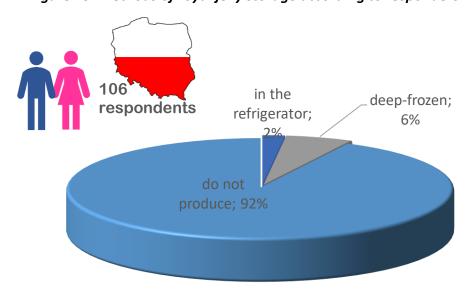
Figure 22. Possibilities of using the larvae according to responders in Poland



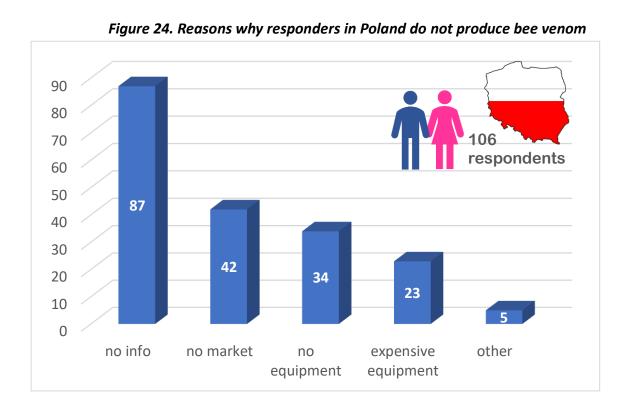


#### Question No. 23. If you are producing royal jelly, how do you store it?

Figure 23. Methods of royal jelly storage according to responders in Poland



#### Question No. 24. Why don't you produce bee venom?



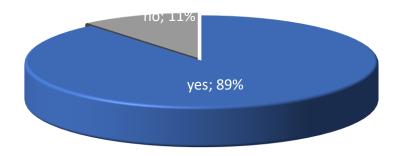




#### Question No. 25. Do you know what "apitherapy" is?

Figure 25. Knowledge of responders in Poland on apitherapy





#### Most often suggested by responders definitions:

Treatment with bee products.

Specific products, such as honey, propolis or bee venom.

Air treatment from a hive and staying near the hives or apitherapy houses.

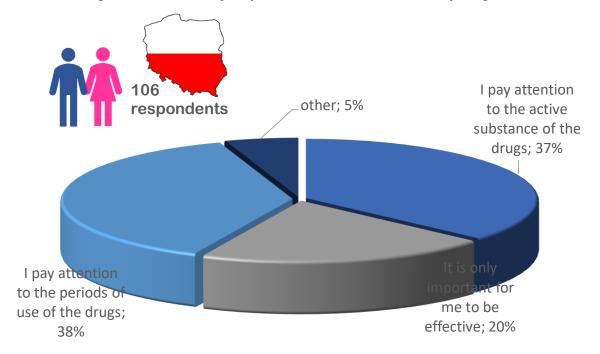
Type of natural medicine used in the treatment and prevention of various diseases.





#### Question No. 26. What are your thoughts on the use of drugs in the hive?

Figure 26. Attitude of responders in Poland to the use of drugs in the hive







## Needs Analysis Report in Poland – Summary

#### General profile of respondents:

Most of the respondents were male (75%), women constituted 22% of the respondents. Most of the respondents were of mature age (46 and up), they constituted 43.4% of the respondents. Young people (18-24 years old) accounted for the lowest percentage - 3.8%. In terms of education, people with higher education dominated (44.3%), a high percentage – 34.0% were people with secondary education. People with primary education accounted for the least, 2.8%. Of the respondents, 21% were employed in small business and 16% farmers. Retirees also constituted a high percentage - which may prove that running an apiary is an attractive way of managing time after retirement.

#### Activities related to beekeeping:

The vast majority of respondents deal with beekeeping as a hobby and amateur (37 and 41% respectively). Only 7% are professionally engaged in beekeeping on a full-time business. Most beekeepers run a stationary apiary (80,2%), and apiaries are mainly located near fields (69,8%) and in forestry areas (47,2%). Most of the people running the beekeeping gained their knowledge under the supervision of experienced beekeepers, (53%) a smaller percentage were people who acquired their knowledge on various courses related to beekeeping (44%), some respondents began on their own, relying on knowledge from books or mass media.

Almost all respondents, when asked to indicate what bee products they obtain, indicated honey (99,1%). A large percentage of respondents also produce: propolis (62,3%), bee wax (50,9%) and pollen (45,3%). None of the respondents obtain Apilarnil. Among the types of honey produced by the respondents, it definitely dominates multiflourous – 83%, then most of the honey is produced linden, rapeseed, acacia and spring honey. Most beekeepers who harvest flower and secretory honey obtain it when 2/3rd of the honeycombs are glazed (69% and 53%, respectively). Some of the respondents indicated that the water content measured by them determines the date of honey harvesting. 58% of responders indicated that water content in harvested





honey should be in range 16-18%. Beekeepers collect honey in jars (88,7%) and sold it to close friends and relatives (74,5% %). 34% of respondents do not produce propolis, and those who produce propolis receive it mainly by honeycomb scraping (42,5%) but 66% of them do not sell it at all. Among the beekeepers selling propolis it is sold raw (28,3%). 47% of beekeepers do not collect pollen, and those who produce it collect it with use of mechanism placed on the bottom board. The amount of bee pollen harvested is low – below 20 kg annually. Obtained pollen is mostly store after drying (40,6%). Other bee product – bee bred is not produced by 82% of respondents and the amount of harvested product, by those who are producing it, is very low – less than 10 kg annually.

42,5% of responders believe that drone larva are useful for health, 27,4% that it increases male hormone; but 27,4% believes it is unnecessary and remove it from the hive. 93,4% of respondents do not produce Royal jelly, while those who do store it in deep freeze and in the refrigerator. The main reason for not producing bee venom (82,1%) is a lack of information, as well as a lack of a market (39,6%).

Term Apitherapy is known to 89 % of respondents. Most of them replied that apitherapy is branch of alternative medicine and it is use of bee products for medical purposes. A significant number of respondents indicated that apitherapy includes use of air from hive and staying near the hives or in apitherapy houses.

In the hive, the effectiveness of the drug is important to 44,3 % of respondents; the active ingredients of the drug are important to 80,2 % of respondents and usability period for 83,0%.







# **Medical Beekeeping for Beekeepers**

Project No: 2021-1-TR01-KA220-VET-000034632

# MEDI-BEEB NEEDS ANALYSIS REPORT IN ITALY



# Confederazione Italiana Agricoltori Regionale Umbria

### 2022- Italy

(The European Commission's support for the production of this publication does not constitute an endorsement of content that reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein)





# Needs Analysis Report in Italy - Authors



# Confederazione Italiana Agricoltori Regionale Umbria

Dr. Massimo CANALICCHIO





## Needs Analysis Report in Italy – General information

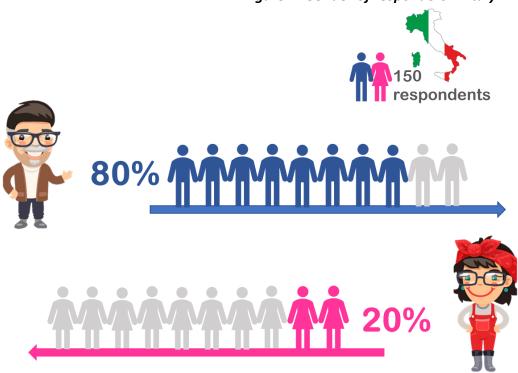
A survey was conducted in Italy, with involvement of 150 beekeepers, focused on a questionnaire constituted of 4 questions related to personal information and 22 questions with technical content. All the beekeepers were contacted individually by WhatsApp calls and e-mails. The interviewees were members of beekeepers' associations, Associazione Produttori Apistici Umbri, APAU, collecting more than 500 beekeepers, individuals and members of cooperatives, Apicoltura Etica e Solidale AES Umbria, and Apicoltori Gubbio Gualdo Tadino soc. coop. agr.

### Needs Analysis Report in Italy - Responders' profile

#### Question No. 1. Your gender? 1.

Your gender: 120 Male (80%) - 30 Female (20%)

Figure 1. Gender of responders in Italy

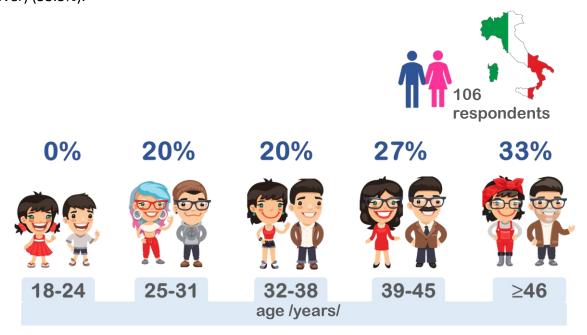






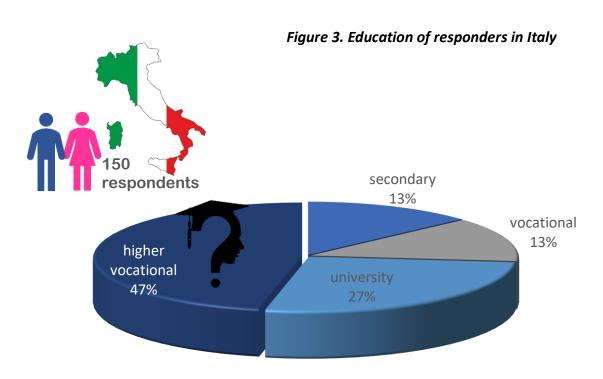
#### Question No. 2. Your age?

Your age: 0 (18-24) - 30 (25-31) (20%) - 30 (32-38) (20%) - 40 (39-45) (26.7%) - 50 (46 and over) (33.3%). *Figure 2. Age of responders in Italy* 



#### Question No. 3. Your education?

0 Primary school – 20 Vocational education (13,3%) - 20 Secondary school (13.3%) - 70 Higher vocational education (46.7%) - 40 University (26.7%)

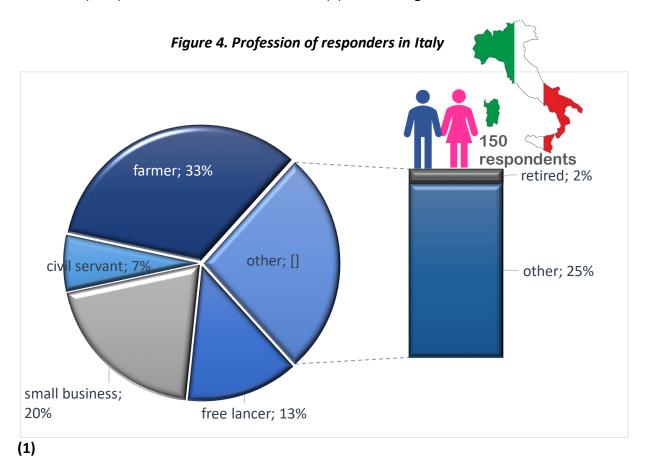






#### Question No. 4. Your profession?

30 Small business (20%) - 50 Farmer (33.3%) - 10 Civil servant (6.7%) - 20 Individual (13.3%) 40 Others (26.7) Others are intended as retired (3) and coming from another economic sector



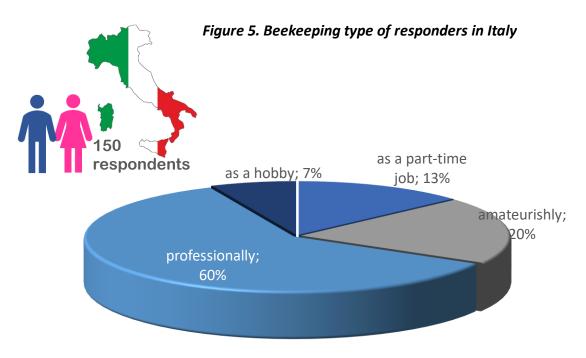
## Needs Analysis Report in Poland – Responders' beekeeping profile

#### Question No. 5. How do you do beekeeping?

30 Amateurishly (20%) - 90 Professionally (60%) – 10 As a hobby (6.7%) - 20 As a part time job (13.3%)







#### Question No. 6. What is your beekeeping style?

86 Stationary (57%) 35 Wandering (23.4%). 20% of respondents indicated that they run both a stationary and wandering apiary.

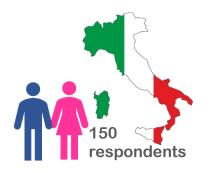
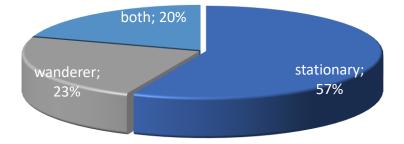


Figure 6. Apiary form of responders in Italy

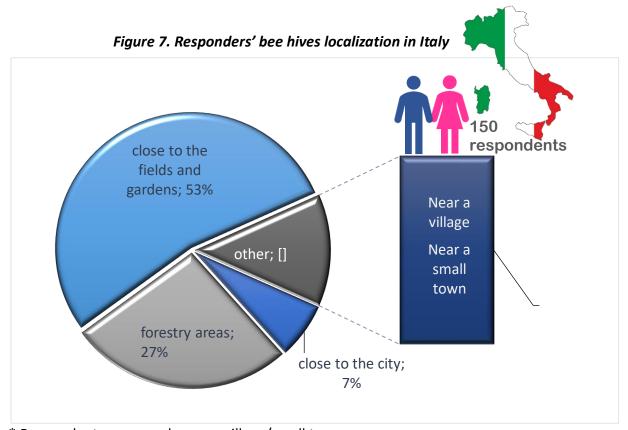






#### Question No. 7. Where do you locate your bee hives?

0 Near asphalt road - 10 Close to city (6.6%) - 40 In forestry areas (26.6%) - 80 Close to fields (53.2) - 20 Other\* (13.6%)



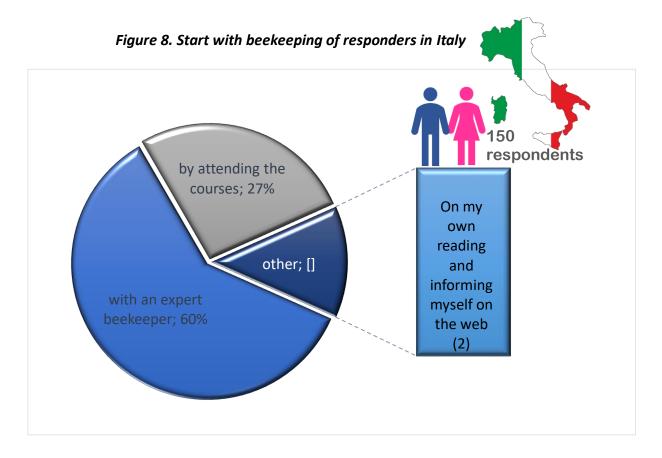
<sup>\*</sup> Respondents answered: near a village/small town

#### Question No. 8. How did you start beekeeping?

90 With an expert beekeeper (60%) – 40 By attending courses (26.6%) - 20 Other (13.4%) - Respondents: on my own reading and informing myself on the web (2).







#### Question No. 9. Which bee products do you produce?

150 Honey (100%) - 80 Propolis (53.3) - 70 Pollen (21.4) - 40 Royal jelly (26.6) - 0 Apilarnil - 0 Bee poison - 50 Queen bee (33.3) - 30 Pack bee (20%) - 0 Bee air - 10 Bee bread (6.7%) – 40 Other\* (26.6%) - respondents produce bee wax.





160 140 120 100 80 .50 espondents 60 80 40 **70** 40 40 20 0 Beepack Beevat

Figure 9. Bee products produced by responders in Italy

Question No. 10. Which honey types do you harvest?

150 All flowers (100%) - 80 Acacia (53.3%) - 60 Linden (40%) - 50 Sunflower (33.3%) 30 Citrus (20%) - 40 Other\* (26.6%) - respondents answered10 with other non-bee products ingredients (nuts, almonds, saffron, truffle, etc.) (6.7%)-

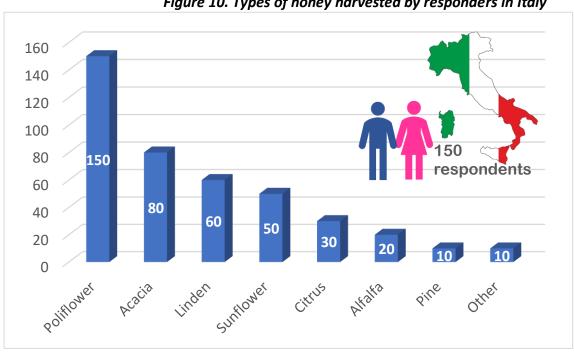


Figure 10. Types of honey harvested by responders in Italy

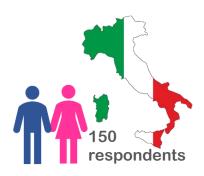


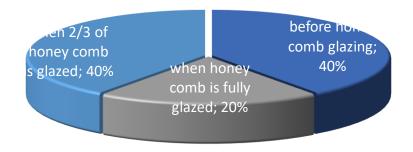


#### Question No. 11. During which period do you harvest flower honey?

60 Before honeycombs glazing (40%), 60 when 2/3 of the honeycombs are glazed (40%), 30 when the honeycomb is fully glazed (20%).

Figure 11. Period of floral honey harvesting by responders in Italy





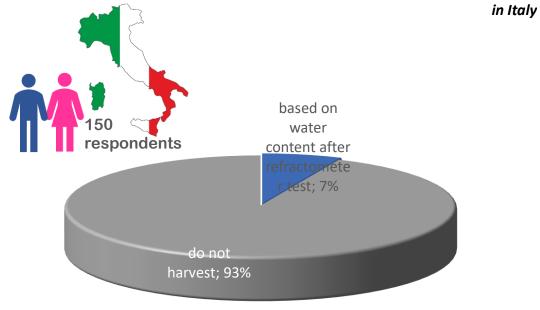
Question No. 12. During which period do you harvest secretion (e.g. pine, honeydew) honey

140 We don't have this case (93.3%) - 10 based on water content, after refractometer test (6.7%).





Figure 12. Period of secretion (e.g. pine, honeydew) honey harvesting by responders



#### Question No. 13. What must the water ratio be in the honey harvested?

90 Less than 16% (60%) - 50 Between 16% and 18% (33.3%) - 20 Between 18% and 20% (13.3%)

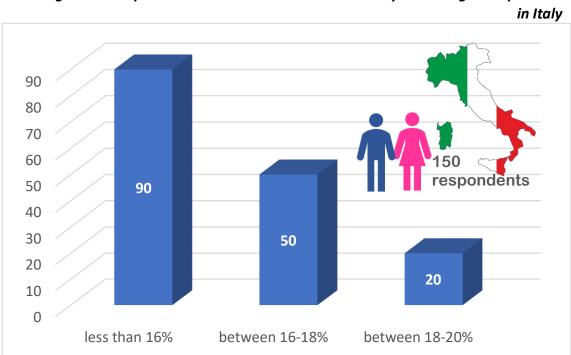


Figure 13. Required water content in harvested honey according to responders





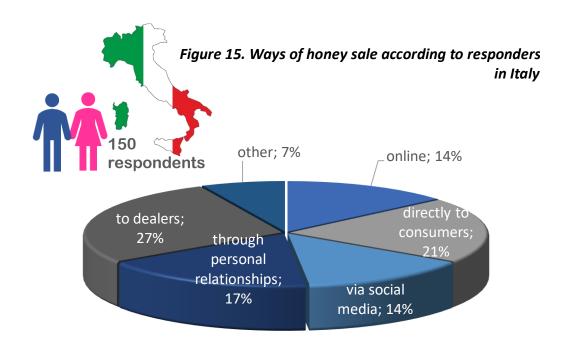
#### Question No. 14. How do you store honey?

10 In tin (6.7%) - 110 in jar (73.3%) - 20 in tank (13.3) 30 Other\* (20%)

120 100 80 respondents 60 110 40 20 30 20 10 0 jars other tanks cans

Figure 14. Methods of honey storage according to responders in Italy

#### Question No. 15. How do you market the honey?



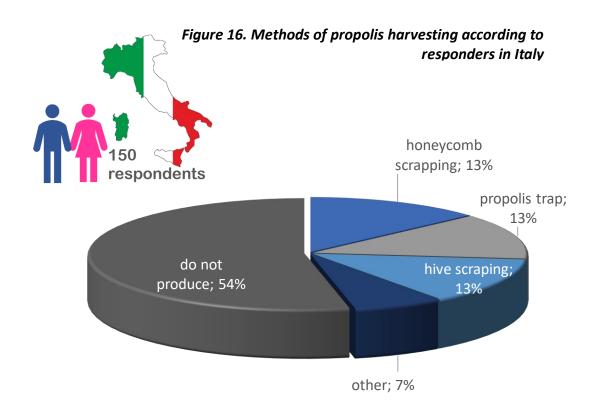




80 To dealers (53.3%) - 60 Directly to consumers (40%) 40 Online (26.6%) 40 Via social media (26.6%) 50 Through personal relationships (33.3%) – 20 Other \* (13.3%)

#### Question No. 16. How do you produce propolis?

80 I do not produce it (53.3%) - 20 By honeycomb (13.3%) - 20 By hive scraping (13.3%) - 20 By propolis trap (13.3%) - 10 Other\* (6.7%).

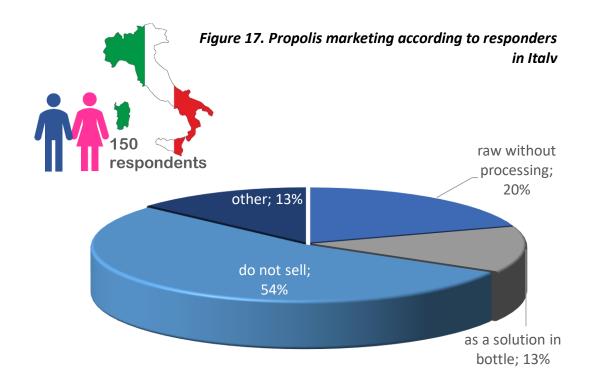






#### Question No. 17. How do you market propolis?

80 I don't sell it (53.3%) – 30 As raw without processing (20%)- 20 As solution in bottle (13.3%) - 20 Other\* (13.3%) - respondents: as ingredient for cosmetics (cream, milk).



#### Question No. 18. How much is your annual pollen production?

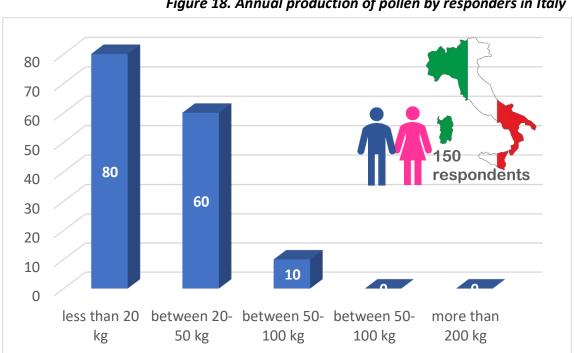


Figure 18. Annual production of pollen by responders in Italy





80 Less than 20 Kg (53.3%) - 40 Between 20 and 30 Kg (26.7%) - 20 Between 30 and 50 Kg (13.3%) 10 Between 50 and 100 Kg (6.7%)

#### Question No. 19. How do you collect pollen?

50 I don't collect pollen (33.3%) - 30 with a mechanism placed on the flight board (20%) - 40 with a mechanism placed on the inner cover (26.7%) - 30 with a mechanism placed on the bottom board (20%).

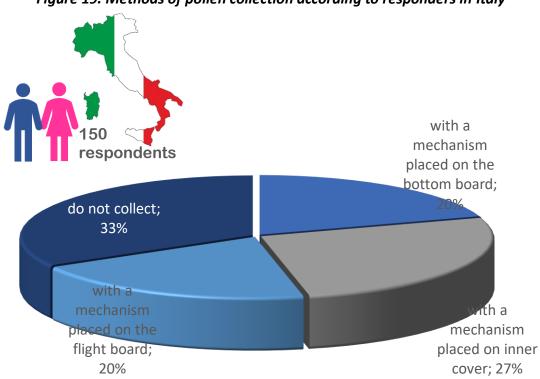


Figure 19. Methods of pollen collection according to responders in Italy

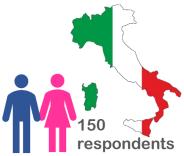
#### Question No. 20. How do you store pollen?

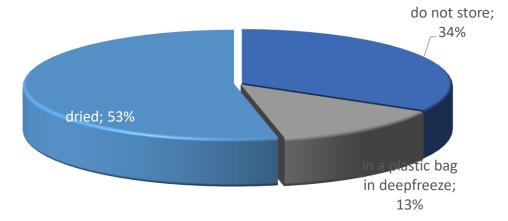
50 I do not store it (33.3%) – 80 By drying (53.3%) – 20 In a plastic bag in deep freeze (13.33).





Figure 20. Methods of pollen storage according to responders in Italy





#### Question No. 21. If you produce bee bread, how much is your annual production?

140 I'm not producing bee bread (93.3%) – 10 I produce 20-50 kg (6.7%).

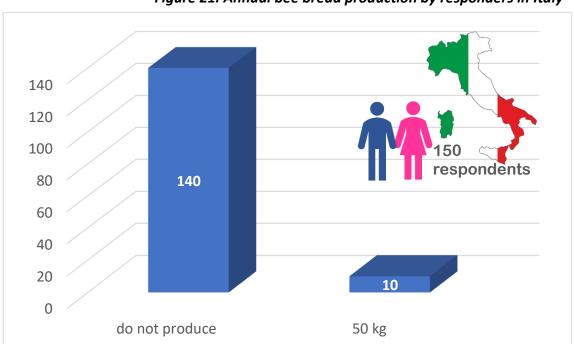


Figure 21. Annual bee bread production by responders in Italy





#### Question No. 22. What is drone larvae used for?

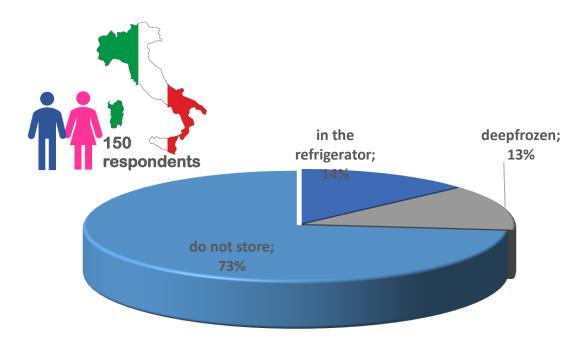
120 Drone larva has no specific function on own (80%) - 30 It's well known that larva drone contains high amount of proteins (20%).

Drone larva has no specific function on own; 80%

Figure 22. Possibilities of using the larvae according to responders in Italy

#### Question No. 23. If you are producing royal jelly, how do you store it?

110 I do not store it (73.4%) – 20 In the refrigerator (13.3%) – 20 In the deep freeze (13.3%).

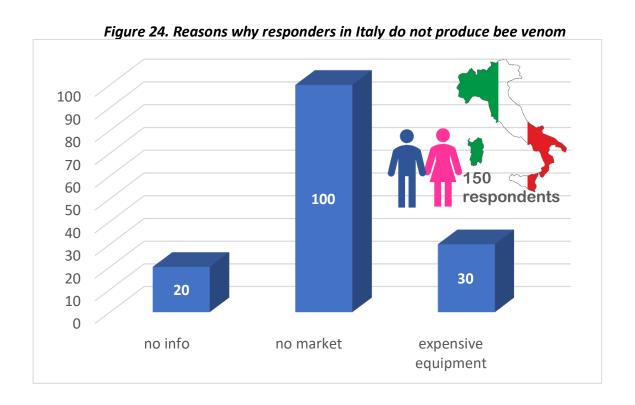






#### Question No. 24. Why don't you produce bee venom?

20 I don't have information (13.3%) - 100 It doesn't have a market (66,7%) – 30 The equipment is too expensive (20%).



Question No. 25. Do you know what "apitherapy" is?

140 Yes, I know (93.3%) – 10 No, I don't know (6.7%).

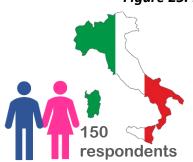
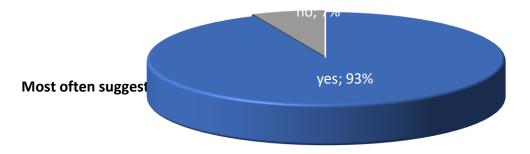


Figure 25. Knowledge of responders in Italy on apitherapy







Treatment with bee products.

Specific products, such as honey, propolis or bee venom.

Air treatment from a hive and staying near the hives or apitherapy houses.

Type of natural medicine used in the treatment and prevention of various diseases.

#### Question No. 26. What are your thoughts on the use of drugs in the hive?

20 Active ingredients of drugs are important (13.3%) - 40 I pay attention to the usability periods of the drugs (26.7%) - 20 It is only important for me that the drug is effective or not (13.3%) - 70 Other\* (60%) - respondents say: as an organic producer only natural medicines are accepted.

other; 47%

other; 47%

other; 47%

me to be
effective; 13%

l pay attention to the periods of use of the drugs; 27%

leave attention to the active substance of the drugs; 13%

Figure 26. Attitude of responders in Italy to the use of drugs in the hive





### Needs Analysis Report in Italy - Summary

#### General profile of respondents:

Most of the respondents were male (80%), while women were 22%, respectively 120 and 30 out of 150. Most of the respondents were more than 39 years old (60%) and nobody 18-24 years old. About the education, people with higher education are the majority (44.3%), nobody with just elementary school diploma, while there are represented vocational school and university degree. About the work identification 1/3 are farmers, as the most represented category, while 20% are identified as retired.

#### Activities related to beekeeping:

- 1. About the matter of making beekeeping the results were: 30 Amateurishly (20%) 90 Professionally (60%) 10 As a hobby (6.7%) 20 As a part time job (13.3%)
- 2. About the matter stationary or wandering the responses were: 100 Stationary (66.6%) Wandering (33.4%), with 20% both of them
- 3. About the location of beehives: 0 Near asphalt road 10 Close to city (6.6%) 40 In forestry areas (26.6%) 80 Close to fields (53.2) 20 Other\* (13.6%, near a village/small town)
- 4. About how they learnt: 90 With an expert beekeeper (60%) 40 By attending courses (26.6%) 20 Other (13.4%, with on my own reading and informing myself on the web)
- 5. About kinds of products: 150 Honey (100%) 80 Propolis (53.3) 70 Pollen (21.4) 40 Royal jelly (26.6) 0 Apilarnil 0 Bee poison 50 Queen bee (33.3) 30 Pack bee (20%) 0 Bee air 10 Bee bread (6.7%) 40 Other (26.6%, bee wax)
- 6. About kind of honey: 150 All flowers (100%) 80 Acacia (53.3%) 60 Linden (40%) 50 Sunflower (33.3%) 30 Citrus (20%) 40 Other (26.6%, 20 alfa-alfa (13.3%), 10 pine (6.7%), 10 with other non-bee products ingredients (nuts, almonds, saffron, truffle, etc.) (6.7%)
- 7. About the period of harvesting: 60 Before honeycombs glazing (40%), 60 when 2/3 of the honeycombs are glazed (40%), 30 when the honeycomb is fully glazed (20%)





- 8. About the period of harvesting secretory kinds of honey: 140 We don't have this case (93.3%) 10 based on water content, after refractometer test (6.7%)
- 9. About the water ratio in honey harvested: 90 Less than 16% (60%) 50 Between 16% and 18% (33.3%) 20 Between 18% and 20% (13.3%)
- 10. About how to collect honey: 10 In tin (6.7%) 110 in jar (73.3%) 20 in tank (13.3) 3 Other (20%)
- 11. About how to market honey: 80 To dealers (53.3%) 60 Directly to consumers (40%) 40 Online (26.6%) 40 Via social media (26.6%) 50 Through personal relationships (33.3%) 20 Other (13.3%, Farmers' markets, Fairs and Exhibitions)
- 12. About how to produce: 80 I do not produce it (53.3%) 20 By honeycomb (13.3%) 20 By honey trap (13.3%) 10 Other (6.7%, propolis frame)
- 13. About marketing propolis: 80 I don't sell it (53.3%) 30 As raw without processing (20%)- 20 As solution in bottle (13.3%) 20 Other (13.3%, as ingredient for cosmetics such as cream, milk)
- 14. About how is pollen production: 80 Less than 20 Kg (53.3%) 40 Between 20 and 30 Kg (26.7%) 20 Between 30 and 50 Kg (13.3%) 10 Between 50 and 100 Kg (6.7%)
- 15. About how to collect pollen: 5 I don't collect pollen (33.3%) 30 with a mechanism placed on the flight board (20%) 40 with a mechanism placed on the inner cover (26.7%) 30 with a mechanism placed on the bottom board (20%)
- 16. About how to store pollen: 50 I do not store it (33.3%) 80 By drying (53.3%) 20 In a plastic bag in deep freeze (13.33)
- 17. About bee bread production: 140 I'm not producing bee bread (93.3%) 10 I produce 20-50 Kg (6.7%)
- 18. About drone larva: 120 Drone larva has no specific function on own (80%) 30 It's well known that larva drone contains high amount of proteins (20%)
- 19. About how to store royal jelly: 110 I do not store it (73.4%) 20 In the refrigerator (13.3%) 20 In the deep freeze (13.3%)
- 20. About why not producing bee poison: 20 I don't have information (13.3%) 100 It doesn't have a market (66,7%) 30 The equipment is too expensive (20%)





- 21. About knowledge on what apitherapy is: 140 Yes, I know (93.3%) No, I don't know (6.7%)
- 22. About use of drugs on hives: 20 Active ingredients of drugs are important (13.3%) 40 I pay attention to the usability periods of the drugs (26.7%) 20 It is only important for me that the drug is effective or not (13.3%) 70 Other (60%, as an organic producer only natural medicines are accepted.





## GENERAL NEEDS ANALYSIS REPORT GENERAL COMMENT AND EVALUATION

The results of the due diligence surveys conducted by the project partners in their own countries were evaluated.

When all countries are evaluated, it can be said that a small number of young people do beekeeping and beekeeping is an agricultural production branch made by individuals over the age of 40-45 and mostly by men. It has been determined that individuals with many different professions or retired are intermediaries, but the main occupation of many people is beekeeping.

Beekeeping is done in two ways. The first is amateur, hobby or for the purpose of providing additional income, and the second is mostly commercial beekeeping, especially by beekeepers with 50 or more hives. Especially in Turkey, it has been reported that most of the beekeepers are itinerant beekeepers, and they carry out beekeeping by transporting beehives from the plain to the highland or to different regions between provinces, according to the flowering periods throughout the country.

It has been observed that there are few beekeepers who took a course on beekeeping. In Lithuania, it is the highest rate of learning beekeeping by starting with an expert beekeeper. Some participants started on their own, based on information from books or mass media. Most beekeepers in Poland and Italy acquired their knowledge under the supervision of experienced beekeepers, while a smaller proportion of beekeepers acquired knowledge in various beekeeping courses. Some beekeepers have started beekeeping on their own with the knowledge they have obtained from books or the media.

Since courses on apitherapy were given in Çanakkale before, the beekeepers participating in the training activities are knowledgeable about apitherapy. However, in the province of Aydın, which is one of the wintering regions of Turkey and where beekeepers come from all over Turkey during the winter period, it has been observed that the beekeepers do not have sufficient knowledge about apitherapy. It has been reported that beekeepers in Europe and other countries have a general knowledge of apitherapy.





It has been observed that the main purpose of beekeeping in all partner countries is to produce honey and honey sales are given importance. Beekeepers engaged in beekeeping reported that they also produced other bee products besides honey. However, sufficient information has not been given regarding the use of other bee products and for apitherapy. All beekeepers do beekeeping to produce and sell honey. However, different information is given about the harvest and period of honey.

Apart from honey, pollen production takes the second place. However, in pollen collection, it has been reported that an appropriate method for the protection of the chemical and composition of the pollen is not applied, and the pollen is kept in jars by drying method. It has been reported that most of the beekeepers who participated in the survey do not use propolis traps and that propolis is collected for scraping and hive cleaning.

It has been observed that the majority of bee producers participating in the survey do not have sufficient knowledge about the production and use of bee bread, royal jelly, bee venom and bee larvae.

Although there are more correct practices in beekeeping, apitherapy, obtaining and storing bee products in European countries, Poland, Lithuania and Italy, compared to Turkish beekeepers, it has been observed that they do not have sufficient knowledge about apitherapy and obtaining and preserving bee products in these countries.

It has been observed that beekeepers generally focus on honey production. However, it was also concluded that beekeepers do not have enough knowledge about the duration of drug use, the properties of drug active ingredients, the use of natural or organic products in the hive, the ability to keep the beehives in suitable areas, the properties of other bee products and the production, storage and marketing of these products, especially for the use of health.

As a result, it can be said that beekeepers do not know exactly what apitherapy is and they need to receive serious training on the properties of bee products and their use in apitherapy. It has been reported that there is a lack of information and misapplications, especially about the acquisition and preservation of pollen, propolis, bee larvae and bee venom for apitherapy purposes.





In particular, the pesticides used in the hive against varoa and other bee diseases leave residues in honey and other bee products, causing more harm than good to human and animal health. In the surveys conducted in all partner countries, it has been reported that the effectiveness and duration of the drug are important in the hive.

This project has been prepared with the aim of informing beekeepers about the importance of apitherapy in the field of health and the correct and healthy production of bee products to be produced for apitherapy and educating them on this subject. As a result of this survey, it has been seen that the outputs of this project will be very important in terms of teaching apitherapy and the production of products to be used in apitherapy to beekeepers who focus only on honey production.

As a result, it can be said that:

- -Beekeepers should be trained on what is apitherapy, on the properties of bee products to be used in apitherapy and on the correct production, storage and marketing of bee products to be used in the field of health.
- -Consumers and especially doctors should be informed that the healthy production of bee products to be used in the health field and the provision of appropriate storage conditions are very important for apitherapy.
- Awareness should be raised about the rules and lawmakers, especially the relevant units of the Ministry of Agriculture in Turkey, to bring some standards and certification studies for beekeepers who will produce and market bee products for apitherapy.
- It is necessary to learn the existing standards for the production, storage and use of bee products in Turkey and in Europe and to identify the deficiencies on these issues.





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