BIO CERTIFICATION

GUIDELINES FOR BEEKEEPERS

CONTENT

INTRODUCTION

Georgia is the home of the Caucasus Mountains and borders the Black Sea. Seventy-five per cent of the country is mountainous. Forty per cent of Georgia is forested. The forests are known for their biodiversity, which include more than 13,000 species of flora, out of which 380 are endemic to the region. Georgia is one of the world's richest terrestrial ecosystems, part of the Global 200 Ecoregions network. Georgia includes a wide range of agro ecological zones ranging from semi desert to sub tropical and alpine. There are 14 Strict Nature Reserves, 8 National Parks, 12 Managed Nature Reserves, 14 Natural Monuments and 2 Protected Landscapes. These are ideal conditions for to the production of poly-floral honey: Acacia, Blossom, Linden, Chestnut, Alpine and wild honey 'Jara'.

Remark: word "hive" used in these guidelines implies for both, Jara hive and common frame beehive.

Beekeeping in Georgia has a long history. Archaeological evidence dates honey to 8000 years ago, exceeding honey remnants found in Tutankhamen's tomb dated at approximately 3500 years ago. Xenophon writing in the fourth century BC, tells of the defeat of the Greeks invading the Black Seas coast using poisoned honey. The healing qualities of Georgian honey is mentioned in texts dating back to the thirteenth century AD. Georgia is the homeland of the Caucasian Grey bee, famous for its long 7.2 mm tongue, high resistance, docility and outstanding ability to obtain nectar. There are few places in the world, where wild bees are used by local people to produce honey and Georgia is one of them, where it is called Jara. This type of beekeeping is very rare and found in remote villages and dwellings in the forests of the subtropical and alpine zones of Western Georgia. In the Jara hive, all the wax is produced by bees. Jara honey is 100 % pure and wild.

According to recent studies, the demand for high quality, bio honey is rapidly increasing. The Deep and Comprehensive Free Trade Agreement (DCFTA) signed with the EU in 2014[1], formed the basis to allow Georgia to export honey to the EU market after complying with all necessary standards[2]. Georgia has an opportunity to enter high-value market with its honey and with Jara honey in particular. Therefore, the bio certification of Georgian honey is of high importance and plays a decisive role in its positioning as a unique niche product.

The aim of these guidelines are to help beekeepers receive comprehensive information about bio certification requirements and required procedures and process. They provide a detailed description of the certification process including prevention of diseases and record-keeping, which are the most significant elements to be followed and met by the beekeepers interested in production of Bio honey.

[1] June 2014

[2] Compliance with requirements which mainly mean having a national Residue Monitoring Plan in place means that Georgia can be placed on the Third Country List for honey and on meeting import requirements in terms of certification and testing can import honey to the EU. Georgia was put on the Third Country List for honey in November 2016. Please see Honey export Guidelines for export details

Organic beekeeping is an ecology-based system contributing to the maintenance of agro ecosystems, contributing to its health, animal welfare and human health through good agricultural practice. Organic beekeeping differs from common conventional beekeeping though various methods used and standards applied at different stages of honey production and processing processes, which ensures the production of bio honey.

Caucascert Ltd is the first organic certification company in Georgia. Its main purpose is to inspect and certify bio products. The company facilitates the development of organic agriculture in Georgia, the export of Georgian organic products to the EU and the protection of the rights of consumers of organic products. Caucascert Ltd is authorized by the EU to register its clients and issue an electronic certificate for import inspection in the EU TRACES system. The company follows the standards of "Green Caucasus", a certification and quality management system, accredited by German accreditation agency DakkS since January 2008.

BIO CERTIFICATION PROCESS

BIOCERTIFICATION PROCESS INCLUDES THE FOLLOWING STEPS:

- Introduction of bio certification process, standard requirements and price list for applicants;
- Filling in the application and production management forms by the applicant;
- Revising and approving the application by Caucascert;
- Signing the agreement between a beekeeper and the Caucascert;
- Conducting the first planned inspection, revealing any incompliances, and commencement of conversion period;
- Conducting unexpected inspection within a conversion year;
- Taking samples for laboratory tests and sending them to an accredited laboratory;
- Providing certification after successful completion of one-year conversion period[3].

Annual planned inspections will be carried out after the successful completion of 1-year conversion period; Honey samples will be taken once every 10 years. In case of necessity, the certification body has the authority to organize unscheduled inspections to the most risk bearing beekeepers and issue an invoice.

[3] Conversion period – the period, which starts from the first planned inspection and lasts until fulfilling all the requirements of Bio certification resulting in issuing of the certificates. In beekeeping the minimum period of conversion is one year. If all the incompliances are corrected during first conversion year, the product gets bio certification.

BIO CERTIFICATION REQUIREMENTS FOR BEEKEEPERS:

Placement of hives

The following should be considered when choosing a place for hives:

- Hives should be situated in a bio diverse environment in remote villages, surrounded by forests, or areas where crop cultivation and processing has minimal impact on the environment.
- At a distance of 3 km around the apiary bees should have access to sufficient nutrition.
- They should be situated at least 3km from potential sources of contamination such as densely populated areas, industrial zones and factories, plantations /farms treated with pesticides, highways and frequently used main roads/ transit roads.
- In the apiary it is necessary to ensure provision of both, salty[4] (1 gr. of salt in 10 l. of water) and ordinary water for bees.
- It is mandatory to number each hive for identification.

Bee Feed

- In bio beekeeping, supplemental feeding of bee colonies is prohibited. After the honey harvest, a sufficient amount of honey and pollen must be left in the hives for the colony to survive in winter until the next foraging period.

- Supplemental feeding of a colony is only allowed in specific circumstances such as severe weather incidents where a lack of supplemental feed would result in the death of the colony. In such cases, biohoney and/or biosugar should be used if available. The certification body may allow the use of non-organic sugar and honey if organic versions are not available on the market. However, Caucascert Ltd should be notified about this in advance. When such an exception is allowed, the time period for additional feeding should be defined. Feeding should cease approximately 15 days prior to the start of main forage period.

[4] Bees require both, salty and ordinary water. In order to avoid contact of bees with contaminants like open toilets, cattle sheds and waste waters for supply of salty water, a beekeeper should arrange a special pond for provision of salty water.

Origin of Bees

While selecting bee breeds, attention should be paid to bees' adaptability to local conditions, their vitality and resistance to diseases. When selecting, the priority should be given to the Caucasian (Georgian) Mountain Grey Bee and its local ecotypes. In case of replacement/upgrading of queen bees and worker bees in already certified apiary it is possible to replace bees in biobeehives with a non-organic queen bee and worker bees which make up not more than 10% of the apiary composition, if they are put in a hive with bio honeycombs.

Health of Bee Colonies

The health of bees should be maintained through good beekeeping practices. The focus should be placed on prevention of disease, selection of bee breeds and proper management of hives. The following are the steps that should be considered:

- **Selection of the proper environment for the apiary and placement of hives;**
- **Selection of proper species, which are well adapted to local conditions;**
- **Replacement of queen bees when necessary;**
- **Maintenance of hygiene in the apiary and disinfection of tools on a regular basis;**
- **Maintenance of sufficient amounts of pollen and honey in hives;**
- **Checking of hives on a regular basis for the timely detection of diseases;**
- **Systematic control of cells in hives, where drone embryos are placed;**
- **Isolation of diseased hives or destruction of polluted hives and materials when necessary.**

Knowledge of bee diseases and carrying out effective measures against them is of great importance for the better management of the apiary.

DISEASES WIDESPREAD IN BEEKEEPING

Bee diseases[5] are classified according to the nature of the causative agent. Transmitted diseases are divided into infectious and invasive diseases. Infectious diseases are caused by vegetable microorganisms: bacteria, viruses and fungi. Invasive diseases are caused by animal origin micro and macro organisms e.g. parasites. Genetics which include the resistance of a colony to disease and environmental conditions related to humidity, temperature, presence of nectar plants and seasonal events strongly influence the onset of diseases.

Table #1: Main diseases of bees depending on the nature of causative agent

Name of Disease	Causative agent	Type of Disease
Varroosis	Varroa destructor	Invasive
Nosemosis	Nosema apis; Nosema ceranae	Invasive
Acarapidosis	Acarapis woodi	Invasive
European foulbrood	Melissococcus pluton	Infectious
American foulbrood	Paenibacillus larvae	Infectious
Ascosphaerosis (Larval Chalkbrood)	Ascosphera apis	Infectious

[5] The whole section about Diseases Widespread in Beekeeping refers to FAO publication: Main bee diseases: Good Beekeeping Practices

VARROOSIS

Description

Varroa destructor is the mite responsible for Varroosis, an external parasitic disease that attacks honeybee colonies (adult bees and especially the brood) and causes the major economic losses to the beekeeping sector. Varroa mite has a remarkably different morphology between the two sexes. Only varroa females cause the depriving parasitic action on bees. The adult female is reddish-brown with elliptical shape and it is on average 1,1 mm long and 1,5 mm wide. It has four pairs of legs that enable the mite to move very quickly inside the hive. They are clearly visible with the naked eye. The male of Varroa mite has only a reproductive role and features a spherical body shape and whitish colour. It is smaller than the female (about 0,8 mm in diameter). Several mites can colonize one bee. Varroa mites can live without food for about five days. The disease is transmitted by other bees. Varroa mites are spread by vagile[6] bees, drones, swarms and others. The life of the varroa female varies on average from two months in summer to up to five months in winter.

If Varroa mites are present in low land conditions of Georgia it is necessary to carry out anti-varroosis treatment three times per year: in early spring; after harvesting honey and in late autumn. In the mountain zones (above 1300 m above sea level) the treatment can be done twice a year: in spring and after harvesting honey.

Symptoms

Varroa mites are observed on the bodies of adult bees. Diseased bee colonies become weak, descendants are less vital and the bees' immune systems are weakened against other diseases. Varroa mites feed off larvae and bee hemolymph, the result of which are lifeless bees, smaller in size and bees with deformed wings. Bees disturbed by Varroa mites become anxious; unable to work as a team and sometimes suffer from diarrhea due to irritation.

Diagnosis

To determine whether a bee colony needs to undergo anti-varroosis treatment, the following method is applied: live bees are placed in a jar and weighed on scales, after which ethanol is added and a cover is put on the jar. The jar is shaken for several minutes; then an ordinary cover is replaced by a special cover with small holes to prevent bees flying out, though varroa mites can get through the holes. Ethanol from the jar is poured on filter paper and the number of varroa mites are counted. To calculate the percentage of varroosis in the bee colony, the following formula is used:

$$\text{Level of varroasis in the bee family (\%)} = \frac{\text{Number of varroa mites} \times 10}{\text{Bees' weight}}$$

Permissible levels of varroa mites are from 1% to 3%. If the percentage of varroosis exceeds 3%, it is necessary to carry out anti-varroosis treatment.

Treatment

Oxalic acid is used for prophylaxis and treatment of varroosis. It is a powder (crystals) and can be applied with syringes as a premade treatment solution (can be used only in case of frame hives) or vaporized by oxalic acid vaporizer (can be used in case of both, frame and jara hives).

Preparation of the treatment solution: the required amount (proportions are shown in Table #2) of oxalic acid is poured into water which is heated to 65°C and stirred with a wooden stick or plastic spoon until it is fully dissolved, afterwards the required amount of sugar is added and stirred until fully dissolved.

[6] Able or tending to move from place to place or disperse: a vagile animal species.

Table #2. Proportions to make Oxalic acid treatment solution (can be used in case of frame hives only)

Ingredients of solution	4.2% solution is recommended when the colony is not going into an extended broodless period	**3.2% optimal concentration for all cases**	2.9% solution is recommended prior to an extended broodless period	**Comment:** The proportions are for oxalic acid dihydrant, in case of a pure compound use 7/10 of the indicated amount of oxalic acid
Oxalic acid	60g	**45g**	35g	1 liter of treatment solution is sufficient for the treatment of 20 bee colonies
Water	600ml	**600ml**	600ml	
Sugar	600g	**600g**	600g	
Oxalic acid	100g	**75g**	60g	1.7 liter of treatment solution- is sufficient for the treatment of 33 bee colonies
Water	1L	**1L**	1L	
Sugar	1kg	**1kg**	1kg	

Note: Water should be distilled or boiled and filtered to be sediment free. Calcium ions that react with oxalic acid reduce the effectiveness of the substance.

Rules of use and dosage: 5ml of the solution should be poured in the inter-honeycomb space in a soft stream (during the period without larvae). The solution should be applied on the bee body. The effectiveness of the substance lasts up to 5 days. Effectiveness of solution against the disease is 90-97%.

Storage conditions of the treatment solution: The premade treatment solution can be stored in a glass or plastic jar in a refrigerator for 6 months.

Vaporizing of oxalic acid: Oxalic acid can also be used by vaporizing it with an oxalic acid vaporizer. 1gr of oxalic acid should be vaporized per colony. Where necessary, the treatment can be repeated twice at intervals of 7 days in autumn and in early spring. Oxalic acid should be heated to 230°C in order to be vaporized sufficiently. It is necessary to follow safety rules when vaporizing the acid. A beekeeper should wear protective gloves, glasses and use a respirator.

Ecostop (active substance Thymol) is used for prophylaxis and treatment of varroosis.

Rules of use and dosage: 1-3 strips of Ecostop is placed in a hive during autumn and spring periods depending on the strength of bee colonies and the acuteness of the disease. Strips should be placed in a hive for 45 days. It should be opened directly before use. It has no side effects.

Warning: Ecostop should not be used during foraging period. It is not recommended to use it when the air temperature is above +33°C.

Formic acid is used for treatment of varroosis and acarapidosis.

Rules of use and dosage: Tissue or a paper board dampened with acid (20ml of formic acid, 65% water solution) is placed on the bottom of a hive three times with the interval of 7 days. It is important to follow the safety rules while applying formic acid. A beekeeper should wear protective gloves, glasses and use a respirator.

ACARAPIDOSIS

Description

Acarapidosis is an invasive disease of worker, queen and drone bees caused by microscopic mites dwelling in the trachea of bees. The disease appears in early spring. Irritated bees suffer from diarrhea; they come out of the hive, are unable to fly and fall on the ground. The spread of the disease is possibly increased by uncontrolled transhumance of bee colonies, the uniting of weak families and putting sick queen bees in colonies. The disease reaches peak in fall and winter.

Symptoms

Asymmetric splayed wings are one of a clinical signs of the disease (approximating a K-Wing appearance). The population buildup is slow and the cluster is disordered. Irritated bees are crawling in front of a hive. The problem is that the symptoms are not unique only to trachea mites. Though, it is worth mentioning that vet medicines used against Varroosis are also appropriate against Acarapidosis.

Diagnosis

Acarapidosis can be diagnosed only by laboratory analysis. A sample of 50 to 100 adult bees needs to be collected from the entrance or frames in a jar with 70 percent alcohol and sent to the lab.

Treatment

Ecostop (active substance Thymol) is used for prophylaxis and treatment of Acarapodosis.

Rules of use and dosage: 1-3 strips of Ecostop is placed in a hive during autumn and spring periods depending on the strength of bee colonies and the acuteness of the disease. Strips should be placed in a hive for 45 days. It should be opened directly before use. It has no side effects.

Warning: Ecostop should not be used during foraging period. It is not recommended to use it when the air temperature is above +33°C.

Formic acid is used for treatment of acarapidosis.

Rules of use and dosage: Tissue or a paper board dampened with acid (20ml of formic acid, 65% water solution) is placed on the bottom of a hive three times with the interval of 7 days. It is important to follow the safety rules while applying formic acid. A beekeeper should wear protective gloves, glasses and use a respirator.

NOSEMOSIS

Description

Nosemosis is a disease of adult bees caused by unicellular fungi. There are two different sub-species of Nosema that affect bees with different prevalence depending on the area: Nosema apis (N. apsi) and Nosema ceranae (N. ceranae), responsible for two different forms of the disease. Both N. apis and N. ceranae have a dormant stage, a long-lived spore. Spores must be swallowed by a bee to initiate an infection. It is localized mainly in the middle intestine and causes diarrhea. N. apis also affects the nutrition glands, abruptly interrupting their secretion: the bees can no longer feed the brood and, consequently, it brings to a halt also the colony renewal

Symptoms

In case of Nozema apis, the bees are irritated and suffer from diarrhea which causes the walls and honeycombs inside hives to be polluted with excrement. The bees can not attach to the honeycomb which causes them to fall, and results in a lot of dead bees in the bottom of the beehive. The bees become unable to secrete the royal jelly. Nozema ceranae, a hidden form of the disease, can occur throughout the year. Typical is the absence of diarrhea in foraging bees. Worker bees are most affected. They leave the colony and are so weakened that can not return back and die outside of the hive. Often bees can be seen crawling in front of a beehive.

Diagnosis

It is not easy to diagnose the disease in its early stages; the only suspicious sign in case of N apis is the presence of liquid excrement on the running board of the hive. In both cases of Nosemosis, the disease can be diagnosed only through laboratory analysis.

Treatment

Nosestat is used for treatment of nosemosis in spring and autumn.

Rules of use and dosage: it is used as feed (1:1) together with bio sugar syrup or a mixture of honey and bio sugar. The treatment solution is used three times with an interval of three days with dosages of 200-300ml per bee colony. After one week from the last treatment, the procedure should be repeated according to the same scheme.

ASCOSPHAEROSIS OR LARVAL CHALKBROOD

Description

Ascosphaerosis or Larval Chalkbrood is a fungal disease, which is caused by – Ascosphaera apis. The fungus is pathogenic towards 3-4-day old larvae; capped and uncapped pupa queen, drone and working bees. Bee larvae become infected by ingesting spores of Ascosphera apis with food. The spores germinate in the intestines leading to the death of the larvae. Each dead larvae of chalkbrood produces billions of spores and, if not removed by the worker bees, they can remain infectious for several years within the hive.

Symptoms and Diagnosis

The larvae may be affected in different life stages, more frequently on the third or fourth day of larval life. They then die in the first two days after capping, so bees must uncap the cells to remove the dead larvae. Chalkbrood produces a mummification and/or calcification of the larvae. Firstly, larvae appear soft, assuming the hexagonal shape of the cell, then they dry out and become hard. The larger part of affected larvae appears white, but some become grey or black; they may not present any symptoms if the infection is less than 12 percent. The presence of little stones (chalkbrood) on the bottom or at the entrance of the hive is typical. Based on these symptoms Ascosphaerosis can be diagnosed

EUROPEAN FOULBROOD

Description

European foulbrood is caused by the streptococcus bacterium Melissococcus pluton (M. pluton). It is an infectious disease of uncapped larvae in cells. The bacterium develops inside the hive at the brood level it spreads orally inside the hive through contaminated nurse bees that, in an attempt to clean dead larvae, get contaminated with the spores which they transmit to the brood when feeding. One of the reasons for the outbreak of the disease is cool and wet weather conditions in Spring, where there may be food shortages, particularly lack of pollen. It has also been observed that the quality and quantity of the sources of nectar and pollen are able to influence the course of the disease. The disease, while being able to occur throughout the year, is more common in spring when there is more brood.

Symptoms and Diagnosis

After the infection, the larvae die in a few days (regardless of whether the larvae are working bees, drones or queens). M. pluton kills the larvae before the cells' capping. The death of the larvae occurs with open cells and this is one of the features that allows to differentiate the EFB from the AFB. Only in the case of serious infection with EFB, the larvae can die in capped cells. The affected larvae instead of being horizontally positioned on one side in a C-shape, adhering to the back of the cells, they often change position. The infected larvae initially lose their pearly white colour to become first opaque, then yellowish and finally yellowish-brown. After death, the larvae become darker and decomposes, turning into a soft brown mass which is neither viscous nor stringy, unlike the larvae infested with AFB. This mass dries up forming a dark rust flake similar to that of AFB but, unlike the latter, it is easily removable from the cell. The brood appears scattered, with cells containing yellowed dead larvae. Depending on the bacteria present the dead larvae may give off sour smells of different intensity.

AMERICAN FOULBROOD

Description

American Foulbrood (AFB) is a bacterial disease of honeybees that affects the brood and it can cause serious economic losses to beekeeping. The causative agent of AFB is a spore-forming bacterium, the Paenibacillus larvae (P. larvae) Bee larvae are the main target of P. larvae in their first 24 hours of life. The spores become active in the digestive tract of young larvae. The spores can remain viable for more than 30 years in an infected hive, being able to contaminate new colonies. This explains why, in severe forms, the only remedy consists in the destruction with fire of both the colonies and the infected combs. After seven days of infection, the infected larvae die and the P. larvae turns back into the spore form not finding the suitable conditions for development. Generally, the disease occurs in summer, rarely in spring. The number of young bees are greatly reduced in the infected colony and without proper treatment at the beginning stage the colony dies.

Symptoms and Diagnosis

The affected brood is characterized by high mortality and the honeycomb appears irregularly capped Some capped cells are darker and sunken or hollow in the center. A typical indicator of AFB infestation is the fetid and sour smell. The infected larvae lose their pearly white colour becoming yellowish at first, then dark-brown and become liquefied with viscous consistency. The introduction of a wooden stick (e.g. a toothpick or a twig) in a cell containing the dead infected larvae, upon pulling it out will result in the stick forming a trickling filament. This is called the "toothpick test". After 3-4 days, the dead larvae dries and forms small black scales, tenaciously adhering to the cell walls. These scales, as well as the dead larvae, contain a large amount of spores.

Table #3: Summary of the main differences between EFB and AFB

Main differences between European and American foulbrood	
European Foulbrood (EFB)	American foulbrood (AFB)
Dead larvae in uncapped cell	Dead larvae in capped cell
Sour smell	Smell of fish gelatin
Absence of blackening of honeycombs	Dark honeycombs, deep-set and perforated cappings
Non-ropey larva	Ropey larva
Removable flake	No removable flake

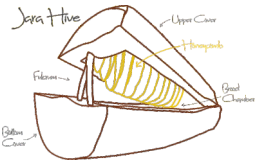
PREVENTION AND TREATMENT OF INFECTIOUS DISEASES

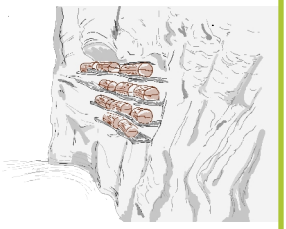
To prevent infectious diseases, the following measures should be taken: the apiary should be placed in a dry, sunny place; bee colonies should be strong and healthy, sanitary-hygienic standards must be followed in the apiary. It is not allowed to use antibiotics for the treatment of infectious diseases; it is recommended to burn infected bee colonies to avoid the spread of diseases. After disinfecting hives, they should be scorched with flame. Tools used in the infected colonies should also be disinfected.

APIARY MANAGEMENT

The bio certification standards have the following requirements for apiary management:

- The destruction of bees in the combs as a method of harvesting honey is prohibited;
- Clipping of the queen bee wings is prohibited;
- The use of synthetic chemical repellents during the honey extraction process is prohibited;
- Smoking should be kept to a minimum. Only natural smoking materials (e.g. dried corncobs) are acceptable when harvesting honey;
- It is recommended to carry out the process of extraction and processing of honey or other beekeeping products at low temperature[7];
- Extraction of honey from the brood combs is prohibited;
- Beeswax used in frame hives should be provided from a bio apiary. In the beginning when beekeepers are arranging an apiary in the first year, or for an apiary already in the conversion period, non-bio beeswax may be used if bio beeswax is not available in the market, the beeswax used in the apiary is laboratory tested for prohibited (antibiotics and pesticides) substances and the beeswax used is made from cap;
- Only stainless steel wire should be used for the construction of frames;
- It is necessary to keep records and documents in a specially allocated binder to include the following: beekeeper's records, corresponding financial documents together with receipts for purchases of vet drugs, beeswax and other beekeeping items, honey sales documents/records, apiary plan, inspection reports of certifying body, bio standards, the contract made with the certifying body and other documents that may be required by the certifying body pertaining to beekeeping activities.





[7] Extraction of honey should start early in the morning until noon when temperature is relatively low. High temperature spreads the smell of honey making bees more excited or irritated which may result in one bee colony attacking another.

RECORD-KEEPING

Beekeepers must keep detailed records on each activity undertaken in an apiary.

Table #4: General information

An Apiary №	Location	Quantity of hives	Start of certification date	Note
1				
2				
3				
4				

Table #5: Treatment against disease

An Apiary №	Type of disease	Name of the vet drug (active ingredient)	Terms of Service (1)		Terms of Service (2)		Terms of Service (3)		Terms of Service (4)		Note
			Dosage	Date	Dosage	Date	Dosage	Date	Dosage	Date	
1											
2											
3											
4											

Table #5: Expense records

An Apiary №	Purchases occurred during the year (GEL)					
	Bee Colonies	Hives	Vet drugs	Employee expences	Other expenses	Total expences (GEL)
1						
2						
3						
4						

Table #7: Honey harvesting records

An Apiary Nº	Honey harvesting date	Number of hives harvested	Average volume of honey harvested per hive (kg)	Total volume of honey harvested (kg)	Note
1					
2					
3					
4					

Table #8: Information about the activities implemented in an apiaryduring a year

Measures per month	1	2	3	4	5	6	7	8	9	10	11	12
Observation of beehives in spring												
Cleaning and disinfecting												
Harvesting after the first honey flow period												
Harvesting after the second honey flowperiod												
Autumn treatment												

Table #9: Additional information about acivities carried out in the apiary

EXCEPTIONS

Some temporary measures may be allowed by the certification body in the case of catastrophic circumstances:

- **Use of non-organic beehives (in the case of frame hives), if organic beehives are not available, for the creation or renewal of the apiary during high bee-mortality caused by diseases or other catastrophic circumstances;**
- **Feeding bees with organic honey, organic sugar or organic sugar syrup, when nectar is not available for bees due to a long-lasting winter or other catastrophic circumstances.**

The beekeeper must have the records and documentation confirming the fulfillment of the standard requirements upon receiving such permission.

BEE PRODUCT- STORAGE AND TRANSPORTATION

Bee products should not lose bio status during storage, transportation and processing. This can be achieved through the following ways:

- **Mixing of organic and non-organic products should be eliminated at all stages.**
- **Contact of bio-products with substances that are prohibited in producing and processing bioproducts is prohibited at all stages.**
- **It is necessary to separate organic and non-organic products and carry out the appropriate labeling if there is only one certified area in the production unit where the non-organic products are kept and stored.**
- **All equipment used for the production and storage of bee products must meet FS&H requirements.**
- **Equipment, tool and collection and storage containers and inventory used in beekeeping, including jars and containers that are in contact with the products should be made from standard material meeting food industry standards and designed for high acidity products; materials should not be corrosive and should be able to be easily cleaned allowing for disinfection. The best material to use is stainless steel.**

CONVERSION PERIOD, TESTING AND ISSUE OF CERTIFICATES

Bee products can be called bioproducts if the requirements set forth in the current standards are performed for at least one year and the results of laboratory analysis of the final product shows compliance to these international standards. Taking honey samples for laboratory testing is done after the honey harvest. The process is agreed in advance with the beekeeper and is carried out by the certifying body, which is also responsible for defining the parameters (such as quality parameters, antibiotics, pesticides, alkaloids) based on which honey is tested at an internationally accredited laboratory.

In Georgia the final decision on certification is made by the certifying body Caucascert Ltd. In the case of any incompliance revealed within the conversion period, the certifying body has the right to expand the conversion period. In the case of compliance, a certificate is issued to the beekeeper, valid for one year. The certificate indicates information about the beekeeper, the type of certified product (i.e. honey, honeycomb honey, etc), the volume of the product harvested during the certification process and the validity of the certificate. The certificate is valid for one year. After one year an inspection is planned and based on the inspection results the certifying body makes a new decision about certification and a new certificate is issued identifying the volume of honey of current harvest.

JARA BEEKEEPERS ASSOCIATION

The Jara Beekeepers Association (JBA)[8] was created under the umbrella of the Ajara Chamber of Commerce and Industry, which has been the member of Georgian Beekeepers Union[9] since 2019. The goal of the Jara Beekeepers Association is to strengthen, promote and protect the interests of its members, raise their awareness, provide necessary information and assist, monitor and guide the bio certification process. All of this eventually ensures stable income for rural beekeepers.

With the facilitation of the JBA, in February 2020, in a country first, eighteen Jara beekeepers in Ajara have received Bio certification. Six more Jara beekeepers, including the Jara apiary in the Goderdzi Alpine Garden, are currently undergoing the certification process to obtain certification by the end of 2020. The conversion was achievable as there is no artificial wax[10] in a Jara hive, it is naturally made by bees. Since November 2018, the association has been facilitating trainings and on-site recommendations; it also provides the important services of the treatment of hives with oxalic acid through vaporization. The advantage of vaporizing oxalic acid lies in its efficiency both in time, efficacy and ease of use. It is especially easy to use for Jara hives. While using a vaporizer, there is no need to open a hive, the equipment just needs to be taken close to the bee's entrance. These beekeepers now follow bio requirements; including keeping records, better husbandry, use of bio vet medicine.

[8] www.jarabeekeepers.org; www.jarahoney.com
[9] www.geobeekeepers.ge
[10] One of the challenge in conversion of frame hives to organic beekeeping is wax foundation. There is no bio beeswax available in local market. In such case, the certifying body may allow the use of non-organic wax, though it should be tested at an accredited laboratory on prohibited substances such as pesticides and antibiotics. Also, it requires minimum ² years to change all the current wax in a frame hive with the new ones.

These guidelines were developed by the Jara Beekeepers Association in partnership with the Biological Farming Association Elkana with the facilitation of the Alliances Caucasus Programme (ALCP) a Swiss Development Cooperation (SDC) project in cooperation with the Austrian Development Cooperation implemented by Mercy Corps Georgia.

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