BPRACTICES
(ERA-NET SusAn)
PROJECT

towards
a sustainable
European
beekeeping

BPRACTICES

Good beekeeping practices

ERA-NETSUSAN

Guidelines of harmonized Good Beekeeping Practices (GBPs)

General Good Beekeeping Practices

Issue-Nr.	
1	**APIARY MANAGEMENT**
1.1	**ENVIRONMENT AND INFRASTRUCTURE**
1.1.1	Buy new bee colonies only after thorough inspection for bee diseases, preferably with a health certificate from a veterinarian
1.1.2	For nuclei use bees and brood combs from healthy colonies only (negatively inspected for bee diseases)
1.1.3	Keep colonies of new introduction separate from the existing stock for an appropriate period (at least 1 month) to monitor them for diseases and infestations in order to prevent transmission of diseases
1.1.4	Orientate hive entrance in a way that sun can reach them since the early morning hours
1.1.5	Avoid having broken hives with openings or not well maintained to prevent robbing
1.1.6	Prevent drift phenomenon: paint/draw numbers or identification signs on the front and entrance of the hive
1.1.7	Prevent drift phenomenon: avoid keeping too many colonies in a single row
1.1.8	Do not have beekeeping material abandoned in the apiary
1.1.9	Reduction of the hive entrance during robbing and cold periods and opening during the hot season
1.1.10	Place apiary in an area accessible to vehicles
1.1.11	Place apiary in a firm area
1.1.12	Place apiary in an accessible area
1.1.13	Keep a number of hives well-proportioned with the amount of melliferous plants/sources of the area where apiary is located
1.1.14	Evaluate the melliferous capacity of the area and the availability of water resources
1.1.15	Avoid areas where allergenic plants (e.g. Ambrosia trifida and Artemisia vulgaris) can be found in a significant quantity
1.1.16	Avoid areas where toxic (e.g. with pyrrolizidine alkaloids) plants (e.g. Echium spp., Eupatorium and Senecio spp.) can be found in a significant quantity
1.1.17	Avoid areas pollutants (e.g. pesticides, heavy metals, etc.) in the enviroment where the apiary is placed
1.1.18	Avoid windy areas to place apiaries

1.1.19	Use personal protective clothing and equipment to visit honeybee colonies
1.1.20	Limit the weight lift (e.g. when harvesting supers or when moving hives) and, if needed, use back protector devices
1.1.21	Keep during apiary inspections corticosteroids or other proper medicines to guarantee health of operators (for example, in case of anaphylaxis)
1.1.22	Do not place beehives directly on the ground
1.1.23	Respect hygiene rules (e.g. periodically cleaning of suits, gloves, etc.)
1.1.24	Use disposable gloves to visit sick hives
1.1.25	Disinfect lever and other potentially contaminated equipment (e.g. gloves) after inspection of hives affected by transmissible diseases
1.1.26	Perform genetic selection in order to have queens that are more resistant to diseases and adapted to local climatic conditions
1.1.27	Respect the planned schedule for beehives inspection
1.2	**ANIMAL FEEDING AND WATERING**
1.2.1	Do not feed the bees with honey or pollen or supplements, unless the absence of pathogens (spores of AFB, chalkbrood, nosema, EFB, etc.) is certified
1.2.2	Ensure the bees access to safe water sources
1.2.3	Provide artificial feeding during times of shortage or to build up winter stores, when needed
1.2.4	Provide adequate food supply to nucleus and swarms, when needed
1.2.5	During transport provide adequate watering if needed
1.2.6	Do not feed your bees openly in the field, to prevent robbing and spread of diseases
1.3	**ANIMAL HANDLING**
1.3.1	Have only healthy strong colonies in the apiary
1.3.3	Keep purchased or weak colonies in a quarantine apiary
1.3.5	Indicate age of combs on the topbar of frame (= year of first placing a frame with foundation)
1.3.6	Replace the queens as maximum every two or three years except those of high genetic value
1.3.7	Balance colony strength among colonies transferring frames only in case of healthy hives
1.3.8	Do not imbalance the proportion between nurse bees and brood while equalising the hives; use preferably combs with hatching bees to fortify weak colonies
1.3.9	Prevention of swarming: insertion of new wax foundations
1.3.10	Prevention of swarming: Colony splitting
1.3.11	Prevention of swarming:Insertion of built combs
1.3.12	Prevention of swarming: removal of the beehive's bottom board

1.3.13	Prevention of swarming:placing of supers
1.3.14	Prevention of swarming: taking off the entrance reducer
1.3.15	Prevention of swarming: Adopting genetic selection of the queens
1.3.16	Use of the queen excluder
1.3.17	Mark the queenbee according to the date of birth
1.3.18	Before winter, reduce the empty space in the hive
1.3.19	Transport hives avoiding the warmer hours of the day, providing adequate openings for air circulation in the hives
1.3.20	Transport/move only healthy colonies
1.3.21	Have the support of an expert (for example, veteterinarian, technician, etc.) to provide assistance in case of need
1.3.22	Attend a personal training plan on beekeeping
1.3.23	**Good beekeeping practices in general to prevent bee diseases: Which are important?**
1.3.23.1	Hive management according to region,season, strength of colony
1.3.23.2	Good hygienic practice in dealing with dead colonies (combs, food stores, boxes, etc.)
1.3.23.3	Number of hives in the apiary according to season, pollen, nectar, honeydew resources
1.3.23.4	Number of hives within a flight range according to season, pollen, nectar, honeydew resources
1.3.24	**Wintering (in Autumn)**
1.3.24.1	Verify the integrity of the hive boxes
1.3.24.2	Verify that a sufficient amount of stores is in the hive
1.3.24.3	Verify the external position of the frames with stores in the hive
1.3.24.4	Reduce the number of frames in the hive box
1.3.24.5	Insert a divider board to reduce the volume for the hive nest
1.3.24.6	Wrap the hive in black tar paper, if needed
1.3.24.7	Reduce the size of the hive entrance
1.3.24.8	Perform bee hive box maintenance (replace parts or painting, if needed)
2	**HONEY HOUSE MANAGEMENT**
2.1	**ENVIRONMENT AND INFRASTRUCTURE**
2.1.1	Adopt pest control procedures
2.1.2	Bee-tight room to extract the honey and store combs and equipment
2.1.3	Keep working rooms and equipment clean, tidy and in best order
2.1.4	Apply general methods of hygiene (e.g. regular cleaning of equipment, etc.)
2.1.5	Use a hygiene plan according to HACCP to control vermins and other pests

2.1.6	Avoid the contact with dust during the transportation of the supers from the apiary to the honey house
2.1.7	Don`t put honey supers directly on the ground (avoid contamination with C.botulinum)
2.2	**HIVE PRODUCTS HANDLING**
2.2.1	Super harvesting neither too early (avoid high water content) nor too late (risk of robbing behaviour)
2.2.2	Do not use repellents to get full honey boxes free of bees
2.2.3	Limit the use of the smoker during super harvesting to prevent the honey contamination
2.2.4	Wear clean clothing and hair protection when handling honey combs, extraction, straining and other manipulation of extracted honey
2.2.5	Extracted honey should be kept and stored without any access for bees or vermins in tight sealed packings (drums, hobbocks etc.)
2.2.6	Thoroughly skim and strain the honey before bottling
3	**HONEY BEE HEALTH MANAGEMENT**
3.1	**VETERINARY MEDICINES**
3.1.1	Use only veterinary medicines for honey bees registered in your country or medicines legally imported
3.1.2	Ensure that all treatments or procedures are carried out correctly as described in the instructions (respecting dosage and method of application)
3.1.3	In case of using instruments for the application (formic acid dispenser, sublimators for oxalic acid treatment) ensure that they are appropriate and correctly calibrated for the administration
3.1.4	Dispose of used instruments and devices in a biosecure manner
3.1.5	Do not carry out antibiotic illegal treatments
3.1.6	Use only pharmacological products registered for beekeeping use following the use instructions and register the treatments
3.1.7	Register and identify the treated hives
3.1.8	Store veterinary products properly
3.2	**DISEASE MANAGEMENT**
3.2.1	Carry out a sampling from bottom hive debris or adult bees in the winter period, in order to identify suspected hives/apiaries (preclinic winter diagnosis of AFB, EFB, SHB)
3.2.2	Carry out thorough inspections for clinical symptoms of bee diseases and presence of the queen in spring
3.2.3	Carry out thorough inspections for clinical symptoms of bee diseases and presence of the queen before supering the hives

3.2.4	Carry out thorough inspections for clinical symptoms of bee diseases and presence of the queen at the end of the beekeeping season
3.2.5	Verify promptly any symptom of disease, asking a veterinarian (or a specialist) suggestions, even taking samples for laboratory investigations, if needed
3.2.6	In case of notifiable diseases follow the instructions of the veterinary law and authorities
3.2.7	Eliminate queens from colonies with clinical history of American foulbrood disease
3.2.8	Eliminate queens from colonies with clinical history of European foulbrood disease
3.2.9	Seek the support of an expert to provide assistance if you have concerns about a disease
3.2.10	In case of infectious diseases clean all beekeeping material between uses (e.g. hive bodies, hive bottom boards, feeders, hive tools)
3.2.11	Follow a training programme in beekeeping and honey bee diseases
3.2.12	Renew 30% of the hive combs every year
3.2.13	Do not move frames or any kind of biological material (for example, to balance hives) from one hive to another in case you are not sure of their health status
3.2.14	Inspect sick hives only after healthy hives inspections are ended
3.2.15	Clean or disinfect (in case of infectious diseases) the hive box before installing new colonies
3.2.16	Select best performance stocks of honeybees
3.2.17	Quickly remove beehives with dead colonies as soon as possible
3.2.18	Take samples for laboratory analyses when sick or dead bees are found, if needed
3.2.19	Burn dead colonies
3.2.20	Clean equipment, scrape off wax and propolis, on regular basis
3.2.21	Disinfect equipment (for example, with NaOH, hypochlorite) on regular basis
3.2.22	Remove and process wax of all combs from dead, affected colonies
3.2.23	Try to select and breed colonies that are more disease tolerant/resistant
3.3	**DISINFECTION METHODS IN CASE OF CONTAGIOUS DISEASE TO BE APPLIED TO HIVE AND BEEKEEPING TOOLS**
3.3.1	Torching (blue flame)
3.3.2	High pressure heated (90°C) water
3.3.3	Bleaching (soda, NaOH, etc.)
3.3.4	Autoclave method
3.3.5	Gamma-irradiation
3.3.6	Incineration of affected colony, always
3.3.7	Incineration of affected colony, if needed

3.4	**DISINFECTION METHODS IN CASE OF CONTAGIOUS DISEASE TO BE APPLIED IN THE HONEY HOUSE EQUIPMENT**
3.4.1	Torching (blue flame)
3.4.2	High pressure heat (90°C) water
3.4.3	Bleaching (soda, NaOH, etc.)
3.4.4	Autoclave method
3.4.5	Gamma-irradiation
3.4.6	Cleaning with detergent

1. Varroa and viruses

Causative agent: *Varroa destructor* (*V. destructor*)

Issue-Nr.	
1	**APIARY MANAGEMENT**
1.1	**ENVIRONMENT AND INFRASTRUCTURE**
1.1.1	Adopt/provide hives with screened bottom boards
1.2	**ANIMAL FEEDING AND WATERING**
1.3	**ANIMAL HANDLING**
1.3.1	Nucleus and swarms should originate from colonies with no clinical signs of diseases (AFB, EFB, DWV, SBV, etc.)
1.3.4	Prepare your colonies before treatment to get the highest possible efficacy, depending on type of treatment and product
1.3.5	Provide sufficient number of healthy spare bee colonies at the right time depending on climate and vegetation conditions
2	**HONEY HOUSE MANAGEMENT**
2.1	**ENVIRONMENT AND INFRASTRUCTURE**
2.2	**HIVE PRODUCTS HANDLING**
3	**HONEY BEE HEALTH MANAGEMENT**
3.1	**VETERINARY MEDICINES**
3.1.1	Treat the varroosis always according to the national situation of legislation and registration
3.1.2	Treat nuclei and swarms (no brood) with oxalic or lactic acid
3.1.3	Treat according to an integrated pest management concept taking varroa thresholds into account
3.1.4	Use preferably biological methods like selection and breeding Varroa tolerant colonies, Varroa sensitive hygiene, etc.
3.1.5	Use preferably medicines allowed in organic farming to control Varroa
3.1.6	Treat simultaneously all colonies of the apiary and in the same area
3.1.7	Monitor efficacy of acaricide treatments: verifying varroa fall after treatment
3.1.8	Monitor efficacy of acaricide treatments: verifying varroa mite presence in the brood, after treatment
3.1.9	Monitor efficacy of acaricide treatments: verifying the absence of varroosis symptoms in the colony (for example, presence of varroa mite on adult honey bees) after treatment

3.1.10	Rotate veterinary medicines active principles to avoid varroa resistance
3.1.11	Perform at least 2 treatments per year
3.2	**DISEASE MANAGEMENT**
3.2.1	Try to select and breed colonies that are more varroa tolerant/resistant
3.2.2	Check the health status of drones producing colonies, especially for viruses
3.2.3	Maintain the number of varroa below the harmful threshold in each colony
3.2.4	Good knowledge of the symptoms of varroatosis and virosis
3.2.5	Good knowledge of the transmission ways of varroatosis and virosis
3.3	**PRE-CLINIC INDICATORS**
3.3.1	Adopt diagnostic tools for measuring varroa infestation levels (for example, ice sugar method, CO2 test, mite fall, etc.) after treatments and during the year (for example, in Spring at the beginning of beekeeping season or before harvesting)

2. AFB & EFB

AFB: Causative agent: *Paenibacillus larvae* (*P. larvae*)

Issue-Nr.

1	**APIARY MANAGEMENT**
1.1	**ENVIRONMENT AND INFRASTRUCTURE**
1.2	**ANIMAL FEEDING AND WATERING**
1.3	**ANIMAL HANDLING**
1.3.1	Select queen breeders free of AFB
2.1	**ENVIRONMENT AND INFRASTRUCTURE**
2.2	**HIVE PRODUCTS HANDLING**
3	**HONEY BEE HEALTH MANAGEMENT**
3.1	**VETERINARY MEDICINES**
3.2	**DISEASE MANAGEMENT**
3.3	**Which type of diagnostic method is important to confirm a clinical AFB-outbreak in an apiary?**
3.3.1	Ropiness test
3.3.2	Search for AFB typical scales (not removable, firmly adherent to the cell wall)
3.3.3	AFB-test (field kit)
3.3.4	Laboratory analysis (isolation and/or PCR)
3.4	**Which measures are the best to apply to control the disease?**
3.4.1	Destroying only hives that show AFB clinical symptoms
3.4.2	Shook swarm only hives that show AFB clinical symptoms
3.4.3	Partial shook swarm (take off only brood combs, leaving store combs) only of hives that show AFB clinical symptoms
3.4.4	Stamping out (destruction) of all colonies of the apiary (with and without AFB symptoms)
3.4.5	Shook swarm of all colonies of the apiary (with and without AFB symptoms)
3.4.6	Partial shook swarm (take off only brood combs, leaving store combs) of all colonies of the apiary (with and without AFB symptoms)
3.4.7	Melting down the combs of all colonies (with and without clinical symptoms) of the affected apiary and safe wax processing
3.4.8	Increase hive inspections in symptomless colonies (and in other apiaries of the same beekeeper)
3.4.9	Check for P. larvae in asymptomatic colonies by laboratory tests (e.g. stored honey in combs, hive debris)

3.4.10	Quick management of affected hives
3.5	**Disinfection measures in case of clinical outbreak: which measures are the best to control the disease?**
3.5.1	Disinfection/incineration of the infected beekeeping equipment (beehives, nucs, mating boxes, boards, frames, queen excluders, etc.) of AFB symptomatic colonies only
3.5.2	Disinfection/incineration of all beekeeping equipment (beehives, nucs, mating boxes, boards, frames, queen excluders, etc.) of the whole apiary (AFB symptomatic and asymptomatic)
3.5.3	Thoroughly cleaning with detergent of honey house extraction tools/facilities (uncappers, centrifuge, sieves, pumps, spins, etc.)
3.5.4	Thoroughly cleaning with detergent of hive product packaging materials (jars, tanks, barrels, etc.)
4	**PRE-CLINIC INDICATORS**
4.1	Sampling colonies (hive debris/adult nurse bees/powder sugar/stores of honey in combs), in winter season, to detect P. larvae (by PCR method or microbial isolation)
Notes	"General GBPs for AFB: Do not feed the bees with honey or pollen or supplement, unless the absence of P. larvae si certiified Move combs among hives only in case of healthy hives Do not exchange honey or pollen combs between colonies in case of clinical or subclinical infection Select and breed AFB resistant honey bees Hygienic measures: - cleaning of equipment by scraping off wax and propolis - cleaning of equipment using registered alkaline cleaning agents (bleach: soda, NaOH, hypochlorite) after basic cleaning of equipment by scraping off wax and propolis - regular replacement of old, dark combs by beeswax foundation - wax processing of all combs from dead colonies Balancing the colonies or splitting colonies, avoiding reducing too much the amount of nurse bees respect the amount of brood Thorough hive clinical inspection in spring to search signs of AFB Thorough hive clinical inspection at the end of the productive season (end summer) to search signs of AFB Recognize the clinical symptoms of Auropean foulbrood: spotty brood pattern, sunken cappings, holes in cappings, ropiness, scales tightly adherent to cell walls, rotting smell.

3. AFB & EFB

Causative agent: *Melissococcus plutonius* (*M. plutonius*)

Issue-Nr.	
1	**APIARY MANAGEMENT**
1.1	**ENVIRONMENT AND INFRASTRUCTURE**
1.2	**ANIMAL FEEDING AND WATERING**
1.3	**ANIMAL HANDLING**
1.3.1	Select queen breeders free for EFB
2	**HONEY HOUSE MANAGEMENT**
2.1	**ENVIRONMENT AND INFRASTRUCTURE**
2.2	**HIVE PRODUCTS HANDLING**
3	**HONEY BEE HEALTH MANAGEMENT**
3.1	**VETERINARY MEDICINES**
3.2	**DISEASE MANAGEMENT**
3.3	**Which type of diagnostic method is important to confirm a clinical EFB-outbreak in an apiary?**
3.3.1	Odour testing - typically with sour smell
3.3.2	Visual testig: removable scales, yellow and contorting larvae
3.3.3	EFB-test (field kit)
3.3.4	Laboratory analysis (isolation and/or PCR)
3.4	**Which measures are the best to apply to control the disease?**
3.4.1	Destroying only hives that show EFB clinical symptoms
3.4.2	Shook swarm only hives that show EFB clinical symptoms
3.4.3	Partial shook swarm (take off only brood combs, leaving store combs) only of hives that show EFB clinical symptoms
3.4.4	Stamping out (destruction) of all colonies of the apiary (with and without EFB symptoms)
3.4.5	Shook swarm of all colonies of the apiary (with and without EFB symptoms)
3.4.6	Partial shook swarm (take off only brood combs, leaving store combs) of all colonies of the apiary (with and without EFB symptoms)
3.4.7	Increase hive inspections in symptomless colonies
3.4.8	Check for M. plutonius in asymptomatic colonies
3.4.9	Quick management of affected hives

3.5	**Disinfection measures in case of clinical outbreak: which measures are the best to control the disease?**
3.5.1	Disinfection/incineration of the infected beekeeping equipment (beehives, nucs, mating boxes, boards, frames, queen excluders, etc.) of EFB symptomatic colonies
3.5.2	Disinfection/incineration of all beekeeping equipment (beehives, nucs, mating boxes, boards, frames, queen excluders, etc.) of the whole apiary (EFB symptomatic and asymptomatic)
3.5.3	Thoroughly cleaning with detergent of honey house extraction tools/facilities (uncappers, centrifuge, sieves, pumps, spins, etc.)
3.5.4	Thoroughly cleaning with detergent of hive product packaging materials (jars, tanks, barrels, etc.)
4	**PRE-CLINIC INDICATORS**
4.1	Sampling colonies (hive debris/adult nurse bees/powder sugar/stores of honey in combs), in winter season, to detect M. plutonius (by PCR method or microbial isolation)
Notes	"General GBPs for EFB: Do not feed the bees with honey or pollen or supplement, unless the absence of M.plutonius si certiified Move combs among hives only in case of healthy hives Do not exchange honey or pollen combs between colonies in case of clinical or subclinical infection Select and breed EFB resistant honey bees Hygienic measures: - cleaning of equipment by scraping off wax and propolis - cleaning of equipment using registered alkaline cleaning agents (bleach: soda, NaOH, hypochlorite) after basic cleaning of equipment by scraping off wax and propolis - regular replacement of old, dark combs by beeswax foundation - wax processing of all combs from dead colonies Balancing the colonies or splitting colonies, avoiding reducing too much the amount of nurse bees respect the amount of brood Thorough hive clinical inspection in spring to search signs of EFB Thorough hive clinical inspection at the end of the productive season (end summer) to search signs of EFB Recognize the clinical symptoms of European foulbrood: spotty brood pattern; yellowish discoloured and distorted dead larvae in uncapped cells; scales; sour odor

4. Nosema

Causative agent: *Nosema spp.*

Issue-Nr.	
1	**APIARY MANAGEMENT**
1.1	**ENVIRONMENT AND INFRASTRUCTURE**
1.2	**ANIMAL FEEDING AND WATERING**
1.2.1	Prevent artificial water sources from faecal pollution or drowned or dead bees
1.3	**ANIMAL HANDLING**
1.3.1	
1.4	**HIVE PRODUCTS HANDLING**
2	**HONEY HOUSE MANAGEMENT**
2.1	**ENVIRONMENT AND INFRASTRUCTURE**
3	**HONEY BEE HEALTH MANAGEMENT**
3.1	**VETERINARY MEDICINES**
3.1.1	Treat the colony if percentages of infected bees are higher than 40%, if there are any registered/permitted products in your country against Nosema
3.2	**DISEASE MANAGEMENT**
3.2.1	Remove combs with signs of dysentery
3.2.2	Strengthen and stimulate the colonies in autumn and spring with the administration of stimulant integrators or feed supplements
3.2.3	Adopt a proper pathogen (e.g. Varroa) control, to ensure a proper balance in the composition of the bee colony (equilibrium of nurse-forager bees)
3.4	**PRE-CLINIC INDICATORS**
3.4.1	Take samples of forager honey bees (or powder sugar or debris) early in autumn or spring to diagnose Nosemosis (PCR and microscopical methods)

Notes	"General GBPs for Nosema: Select queen breeders with Nosema-free stocks; Verify the proper orientation (to South-East) and positioning of the hives: sunny and dry in the wintering places, avoiding humidity and wind and ground depressions Destroy colony in case of heavy infection in weak colonies; Strengthen and stimulate the colonies in Autumn and Spring with the administration of stimulant integrators composed by vegetal substances/molasses or vitamin integrators if they are registered/permitted products in your country Disinfect beekeeping tools and equipment between uses: torching (Nosema ceranae spores are inactivated to over 60°C); gamma radiation; fumigation of combs with glacial acetic acid, sodium hydroxide 5% (caustic soda); sodium hypochlorite 0.5% (bleach). Prerequisite of any use of disinfectants is a legal status as a biocidal product in your country - check before any application Do not feed extracted honey, combs with stores (honey or pollen) from Nosema infested to healthy colonies Select and breed Nosema resistant honey bees"

5. Aethina GBPs

Causative agent: *Aethina tumida* (*A. tumida*)

Issue-Nr.	
1	**APIARY MANAGEMENT in case of SHB being present in your area or your apiary has been in a SHB-zone (protection or surveillance zone) in the last two years**
1.1	**ENVIRONMENT AND INFRASTRUCTURE**
1.1.1	Trace meticulously movement of hives (identify hives, dates of movements, exact position)
1.1.2	Control the transport conditions adopting a proper isolation of beekeeping equipment avoiding spread of SHB during transport
1.1.3	Do not leave outside of beehives frames, combs or other material that could be attractive and edible for Aethina
1.1.4	Stock combs in order to prevent survival of SHB eggs and larval development in a cold chamber at a temperature below 10°C
1.1.5	Stock combs in order to prevent survival of SHB eggs and larval development in a chamber at less than 34% relative humidity
1.2	**ANIMAL FEEDING AND WATERING**
1.2.1	Administered artificial nutrition should be given each time at low amounts to be consumed by the bees within a short time. Pollen supplements (protein feed) could be a substrate for the reproduction of SHB
1.3	**ANIMAL HANDLING**
1.3.1	Have only healthy strong colonies in the apiary
1.3.2	Have only young queens with hygienic behaviour
1.3.3	Use queen bee excluder in order to avoid the presence of brood in the supers
1.3.4	Take care that the bees cover all frames in the hive (no empty space)
2	**HONEY HOUSE MANAGEMENT in case of SHB being present in your area or your apiary has been in an SHB-zone (protection or surveillance zone) in the last two years**
2.1	**ENVIRONMENT AND INFRASTRUCTURE**
2.1.1	Clean meticulously the honey house and warehouse
2.1.2	Use trap-lamps during the night in honey houses and warehouses with beekeeping material to diagnose SHB larvae presence
2.1.3	Trace meticulously movement of supers and wax
2.1.4	Use bleach (sodium hypochlorite) in the cleaning of honey houses and warehouses in order to prevent the development of SHB larvae and yeasts (Kodamaea ohmeri) if it is allowed as a cleaning agent in your country
2.1.5	Return the extracted supers to the hives in order to allow the bees to remove the remaining honey from the combs. (Prevent robbing!)

2.2	**HIVE PRODUCTS HANDLING**
2.2.1	Extract immediately the honey after the harvesting (at latest within two or three days)
3	**HONEY BEE HEALTH MANAGEMENT in case of SHB being present in your area or your apiary has been in a SHB-zone (protection or surveillance zone) in the last two years**
3.1	**VETERINARY MEDICINES**
3.2	**DISEASE MANAGEMENT**
3.2.1	Carry out periodical hive inspections to detect and eliminate the parasite (adults and larvae)
3.2.2	Use traps to monitor and control SHB presence in the apiary
4	**APIARY MANAGEMENT in case of SHB not being present in your area and your apiary has not been in a SHB-zone in the last two years**
4.1	**ENVIRONMENT AND INFRASTRUCTURE**
4.1.1	Do not leave outside of beehives frames, combs or other matherial that could be attractive and edible for Aethina
4.2	**ANIMAL HANDLING**
4.2.1	Have only healthy strong colonies in the apiary
4.2.2	Have only young queens with hygienic behaviour
4.2.3	Do not transport, into your apiary live material at risk (hives, queens, nucs, etc.) from areas where SHB is present
4.2.4	Do not transport, into your apiary live material at risk (hives, queens, nucs, etc.) from areas where SHB could be present
4.2.5	Use queen bee excluder in order to avoid the presence of brood in the supers
4.2.6	Take care that the bees cover all frames in the hive (no empty space)
4.3	**HIVE PRODUCTS HANDLING**
4.3.1	Do not transport into your apiary material at risk (supers, wax, pollen, etc.) from areas where SHB is present
4.3.2	Do not transport into your apiary material at risk (supers, wax, pollen, etc.) from areas where SHB could be present
4.4	**DISEASE MANAGEMENT**
4.4.1	Good knowledge of SHB morphology of eggs, larvae and adults
4.4.2	Good knowledge on hive inspection methods to detect SHB
4.5	**PRE-CLINIC INDICATORS**
4.5.1	Adopt specific traps for quick visual detection of SHB
4.5.2	Monitor periodically the presence of SHB sampling debris or honey

6. Traceability

Issue-Nr.

1	**APIARY MANAGEMENT**
1.1	**ENVIRONMENT AND INFRASTRUCTURE**
1.1.1	Keep the medical certificates of persons working in contact with bees and any document certifying their qualifications and training
1.1.2	Keep all laboratory reports, including bacteriological tests and sensitivity tests
1.1.3	Keep all documents proving that the bacteriological and physico-chemical quality of the water used in the honey house, given to the colonies or used in feed preparation meets official tap water standards for your country
1.1.4	Keep all the documents relating to self-inspections and controls (by the authorities and other official bodies) on the proper management of the colonies and the sanitary and hygienic quality of the bee products
1.1.5	Keep all documents sent by the official inspection services (distributors or the quality control departments of food-processing firms) relating to anomalies detected
1.1.6	Keep all documents and records and place them at the disposal of the competent authority (Veterinary Services and Food Control Services) and ensure that all these documents are kept long enough to enable any subsequent investigations to be carried out to determine whether contamination of food products detected at the secondary production or distribution stage was due to a dysfunction at the primary production level
1.2	**ANIMAL FEEDING AND WATERING**
1.2.1	Establish a data-recording system that can be used to ascertain exactly which batches of commercial feed the colonies were fed with
1.2.2	Keep all documents/certificates that indicate the raw materials used in feed manufactured by the beekeeper and given to the colonies
1.2.3	Keep all documents/certificates about the commercial feed used
1.2.4	Keep samples (-20°C) of all feeds administered to the bees
1.2.5	Record the changes in feeding
1.2.6	Record the origin and use of all feeds used, keep all records of all feed manufacturing procedures and records for each batch of feed
1.3	**ANIMAL HANDLING**
1.3.1	For each colony or group of colonies, require and keep all commercial and health documents enabling their exact itinerary to be traced from their farm or establishment of origin to their final destination
1.3.2	Identify with numbers/letters all the hives in each apiary

1.3.3	Create a unique identification number for the apiary to easily trace the location of the hive (for stationary apiaries)
1.3.4	Registration of the beekeeper in the National Beekeeping Registry
1.3.5	Record all reared colonies
1.3.6	Record the exact position of the beeyards
1.3.7	Record all colonies arrivals, origin and date of arrival, to ensure that movements of incoming colonies are traceable to their source
1.3.8	Keep records of movements of hives, swarms, queen bees
1.3.9	Keep records of breeding activities (e.g. all breeding stock, when queens were born, their origin and arrival, the breeding dates in case of instrumental insemination and outcomes, etc.);
1.3.10	Record any other management changes that may occur
1.3.11	Record period of collection of hive products from each apiary
1.3.12	Keep a list of certified suppliers
2	**HONEY HOUSE MANAGEMENT**
2.1	**ENVIRONMENT AND INFRASTRUCTURE**
2.1.1	Identify the supers in the honey house coming from different apiaries
2.2	**HIVE PRODUCTS HANDLING**
2.2.1	Establish a data-recording system to ascertain the exact origin (batch) of bee products produced
2.2.2	Establish a data-recording system to ascertain the destination of bee products produced
3	**HONEY BEE HEALTH MANAGEMENT**
3.1	**VETERINARY MEDICINES**
3.1.1	Keep records of veterinary medicine treatments
3.2	**DISEASE MANAGEMENT**
3.2.1	Record the health status of the colonies: diseased/infected colonies (dates, diagnoses, ID of colonies affected, treatments and results)
3.2.2	Record the health status of the colonies: mortality (dates, diagnoses, ID of colonies affected)
3.2.3	Record the origin and use of all disinfectants and consumable items used, keep all the records relating to the cleaning and disinfection procedures used on equipment or honey house (including data sheets for each detergent or disinfectant used) as well as all the records showing that these procedures have effectively been implemented (task sheets, self-inspection checks on the effectiveness of the operations)
3.2.4	Comply with legal obligations concerning restrictions on animal movements in case of notifiable diseases


BPRACTICES