Health and Safety Manual

In partnership with

OBJECTIVE

Beezthingz is in the business of the rental and contract management of Honey-Bees housed in Beehives.

Sites where beehives are located range from residential properties, commercial buildings, commercial properties, schools, public spaces, orchards, large farms and forestry blocks.

Beezthingz recognises that not all risk can be reduced to nil, therefore this manual prioritises the significant risks. Significant risks are those which pose risk of serious injury, chronic injury, disability or death, or risks that interrupts staff and clients daily activities.

WHO/WHAT COULD BE AT RISK?

- ☐ Anyone visiting sites or neighbouring properties where beehives are located.
- ☐ Pets including stock animals residing at the sited properties.
- ☐ Gardens and landscapes.
- ☐ Buildings.
- ☐ Forests.
- ☐ Farmland.

POSSIBLE HAZARDS AND RISKS

- ☐ Bee-Stings: leading to a minor allergic reaction. Particularly if near eye or airway, that may become more of an issue over the following hours or if more than three minor stings have been suffered.
- ☐ Bee-Stings: leading to a major allergic reaction such as an anaphylactic shock, restriction in breathing, massive swelling and/or other severe reactions.
- ☐ Bees swarming - becoming defensive through inappropriate actions of others (vandalism etc) or through natural factors, with potential to attack as a swarm.
- ☐ Fear of bees leading to distress in students at schools, employees and visitors at other locations.
- ☐ Damage to properties due to beekeeping activities, eg lawn and road damages due to vehicle, fire from smokers.

PRECAUTIONS AND CONTROL MEASURES TO REDUCE RISKS

- ☐ Allergies to stings or previous major reactions to stings should be known by individuals and they should have access to treatments such as EPIPEN and antihistamines.
- ☐ If a number of stings are administered to a group or individuals, leave the area for at least an hour to allow the pheromones emitted in stings to disperse and bees are given time to calm down.
- ☐ Bee colonies should be healthy and docile and queens will be replaced for any colonies showing aggressiveness.
- ☐ Hives should only be closed off or moved by Beezthingz Ltd signed up contractors.
- ☐ Hives should be worked on sites during times when least people are present, eg

Schools (during weekends or after school hours), commercials (weekends).

- ☐ Smokers should always be plugged up after use. The Beekeeper should have a fire extinguisher in the vehicle.
- ☐ Smoker guidelines are further discussed in our beekeeping practices below.

Beezthingz safe beekeeping practices

Common occupational health and safety issues affecting beekeepers.

Protective clothing and equipment

It is always a good idea to put on your protective clothing and equipment before you move close to the hives. Similarly, when you have finished working in the apiary, move well away from the hives before you begin to remove protective clothing. It is not uncommon for one or two bees to follow the beekeeper when leaving the apiary.

It is important to wear protective clothing that is smooth and light-coloured because bees react unfavourably to dark or woolly material. The clothing should also be clean because bees dislike certain odours such as dog, horse and diesel fuel.

Ensure the protective clothing has no holes because bees have a knack of crawling through small holes. Bees that make it through to the inside will often panic and sting.

Beekeeping Hat

The ventilated helmet is recommended. The ventilation helps to keep the head cool on hot summer days and the hat gives firm support for the bee veil. Dark felt hats and floppy hats should be avoided.

Bee Veil

A folding wire veil is fitted to a firm hat that keeps its shape and this ensures a good separation between the beekeeper's face and the bees outside the veil. Dunlop coveralls are recommended.

Beekeeping coveralls and bee suits

Most beekeepers wear white coveralls fitted with elastic cuffs and wrist bands. If standard coveralls are purchased they are best fitted with cuffs and bands. Make sure the leg length is long enough to protect your ankles when you bend to reach the bottom box of the hive.

Beekeeping Gloves

Gloves, usually leather, vinyl or plastic coated, must be strong but also pliable to allow movement of the fingers when lifting boxes and frames. Elbow length cloth sleeves attached to the gloves will prevent bees gaining access inside. A band of elastic sewn into the sleeve at the elbow will make the glove and sleeve entirely bee-proof.

Footwear

Elastic sided boots are commonly worn because they cover the ankles. Sock protectors provide additional protection for the ankles. These may be purchased from clothing stores.

Bee Stings

Anyone who keeps honey bees will receive a bee sting sooner or later. There are no exceptions to this fact.

If you know or suspect that you have an allergy to bee stings, you should seek medical advice before taking up or continuing with beekeeping.

The following information about the effects of stings was supplied by the Australasian Society of Clinical Immunology and Allergy.

"*Most people are not allergic to stings. The normal reaction is some local pain for about ten minutes and some local swelling for a day or two. Occasionally the person stung may be sensitive to stings. Extensive swelling or redness may occur over a localised area; a generalised rash may also develop. In extreme cases, breathing may become difficult and a person may become very weak. This is an emergency and urgent medical treatment is required. Even if the reaction is self-limited, people should seek medical advice regarding future stings*."

When beginning in beekeeping, it is important to have another person present to watch for any indication of an adverse reaction to stings. This person should be available to get medical help for the beekeeper if required. Joining a beekeeping club where beginners are able to open hives and handle bees under guidance of an experienced beekeeper is recommended.

Most beekeepers have found that the first few stings will cause a 'local reaction' of swelling and discomfort. Usually this reaction becomes less as more stings are received over time. Eventually, the stings cause little or no local reaction apart from the pain.

However, this is not true for everyone. In some people, the reaction increases as more stings are received. These people should not keep bees without appropriate medical advice.

Dealing with bee stings

Removing the stinger

Remove the stinger as quickly as possible to minimise the amount of venom injected. Muscles in the detached stinger will continue to drive the stinger deeper into the skin and at the same time pump more venom into the victim. Delay in removing the stinger increases the venom injected. Remove the stinger by scraping or plucking it. Research reported in the medical journal, *The Lancet*, in 1996, pointed out that the method used to remove the stinger did not seem to affect the quantity of venom received. It was more important to get the stinger out as quickly as possible. Apply appropriate medication to the sting site if required to minimise pain.

Bee inside the veil

It is important to remain calm. Move quickly, well away from the apiary before removing the veil to release the bee. An agitated bee freed from a veil may quickly return to attack again. So it may be better to kill the bee inside the veil before it has an opportunity to sting. Keep the bee well away from your face when squashing it.

When a bee stings through clothing

Remain calm. Immediately blow smoke on the clothing at the sting site to mask any pheromones that invite other bees to 'sting here'. If you need to apply any medication to minimise pain, move well away from the apiary before removing any clothing.

Bee Smoker

Effect of smoke on bees

Smoke masks bee pheromones, temporarily disrupting the defensive behaviour of the colony and making the bees easier to handle. A smoker with a barrel of 100 mm diameter is recommended. Smokers of this size provide a good stream of dense cool smoke for subduing bees when opening the hive and during the period the hive is open.

Lighting the smoker

Place a small amount of newspaper in the bottom of the barrel of the smoker and light it.
Add a small amount of dry fuel (for example, pine needles, hessian or dry stringy bark) in the barrel and at the same time work the bellows to gently draw the embers. Continue to add fuel at the same time working the bellows. When the embers are well established with plenty of smoke, add more fuel to fill the barrel. Pack the fuel reasonably firmly, but not so tightly that it will prevent air flow. This will ensure that the smoke is cool and the embers not too hot. Hot smoke and sparks only make bees angry.

Frequent use of the bellows will keep the embers provided fuel is added as required. To avoid burns, keep the hot barrel of the smoker away from the operator.
When not in use, place the smoker in a metal bucket positioned so that smoke drift does not affect your eyes and breathing.

How to extinguish the smoker fire

Empty the smouldering smoker fuel and ash into a bucket of water. Ensure all the ash and fuel in the smoker is thoroughly soaked. If it is unsafe to empty the smoker, due to a strong wind, place a tight roll of grass or other non flammable material in the smoker nozzle to smother the embers. Then place the hot smoker in a metal bucket until the smoker is completely cold.

Restrictions affecting use of smokers

A smoker must not be used on a day of Total Fire Ban unless you have a permit to do so. Advice on Total Fire Ban days can be obtained by contacting the local council and http://www.checkitsalright.nz/check-fire-season-status/

During the declared Fire Danger Period or Fire Restriction Period, fires in the open air are restricted. Because bee smokers are considered to be a fire in the open, the following restrictions apply during these periods.

- ☐ Smokers should only be lit on ground that is bare of combustible material for three metres or in a fire proof receptacle such as a steel bucket, a knapsack or water extinguisher, containing no less than nine litres of water, and a rake hoe or fire rake should be located as close as practical to the lit smoker.
- ☐ when the smoker is not being operated it should be placed in the fire proof receptacle.
- ☐ A person must be in attendance of a lit smoker at all times.

Opening the hive

- ☐ Honey bees are relatively manageable when the following conditions occur:
- ☐ the weather is fine, air temperature is about 16°C or above and there is no strong wind.
- ☐ there is good daylight – avoid very dull periods.
- ☐ bees are flying to and from the hive.
- ☐ foragers returning to the hive may have pollen pellets on their hind legs. ● The

following points provide a guide for opening the hive and examining combs:

- ☐ stand at the side of the hive so that sunlight shines over your shoulders. When examining a comb, this position allows the sun to shine directly into the cells.
- ☐ direct 5 to 6 puffs of smoke into the hive entrance so that the smoke circulates inside the hive. Never open a hive unless smoke has been applied.
- ☐ wait about one minute for the smoke to reach its maximum effect, then direct a few more puffs into the entrance.
- ☐ use the hive tool to lift the cover (lid) about 20 mm at one corner and direct three to four puffs of smoke over the hive mat (if present) or top bars of the frames.
- ☐ remove the lid and the hive mat and at the same time direct a few puffs of smoke between the frames.
- ☐ use the hive tool to separate one of the side frames (next from the hive wall) and the adjoining frame.
- ☐ lift the side frame out of the box and stand it on end at the opposite front corner so that it does not block the hive entrance and obstruct forager bees. There is now room to separate the remaining frames and remove them to inspect the combs as necessary. Failure to separate frames will result in bees or the queen being rolled and crushed as each frame is lifted out of the box. This will cause bees to become angry.
- ☐ apply more smoke when bees gather on the top bars of frames and suddenly fly up towards the beekeeper. This behaviour indicates that the beneficial effect of smoke has mostly worn off. Direct smoke around the top of the frames to ensure the bees remain manageable.
- ☐ when a hive of two or more boxes is opened, it is best to put the supers on an upturned cover placed near the front of the hive but not directly in front of the entrance. Using the hive tool, lift the super about 20 mm at one corner and direct a few puffs of smoke between the two boxes and then remove the box.
- ☐ inspect and/or manipulate combs in the bottom box first. Inspection of combs in the super before it is removed from the hive will in many cases result in bees moving from the super to the bottom box. When the bottom is attended to, the bees are unnecessarily agitated.
- ☐ Reassembling and closing the hive is done in the reverse order. Smoke may be used to direct and move any bees that might otherwise be squashed when the hive lid and boxes are returned to their position.

Travelling long distances

Beekeepers sometimes travel long distances to reach their apiary or to move bees to another district. Long journeys may occur after a period of hard work in the apiary. Beekeepers are encouraged to take note of current road safety messages such as relieving fatigue by swapping drivers or taking a power nap, breaking a journey every two hours for a snack or meal break. It may be preferable to stay overnight before commencing a long journey home.

Working in isolation

Beekeepers who keep hives away from home often work in isolation and a long distance from contact with other people. Beekeepers working in such conditions should have effective means of communication to enable them to obtain help in case of an emergency. A suitable cellphone and CB radio or VHF radio should be considered.

In addition, before leaving home, a beekeeper should advise family members or an appropriate person of the apiary location and expected time of returning home.
Effective means of communication, including receiving emergency radio bulletins during the proclaimed fire danger period, is important for monitoring any wildfires that might pose a safety risk.Beekeepers should also carry first aid kits and have a basic understanding of first aid.

Beekeeping in hot weather

Take special care when working with bees on hot days. Wearing protective clothing and working the hives in full sunlight can easily result in the body becoming overheated and dehydrated. It is essential that there is a supply of cool fluids for frequent drinks and that the beekeeper is able to detect early signs of heat stress and dehydration. Better still, it is best to avoid working bees on very hot days or during the hottest part of the day. This will be good for you and the bees.

Lifting hives and heavy equipment

A considerable amount of lifting is necessary in beekeeping and a number of beekeepers have had back injuries. A 10 frame FD super (box) with all combs full of honey may weigh around 45kg. Hives with two or more boxes, with some stored honey, can weigh up to 150kg.Beekeepers are encouraged to adopt correct manual handling techniques and to use mechanical lifting equipment when moving hives. Information on suitable lifting equipment is available from beekeeping supply shops and beekeeping journals.

Operating Trucks, Hiabs and Forklifts.

Any person operating Trucks, Hiabs and Forklifts working for or contracted by BeezThingz Ltd must have the appropriate license and it must be valid.