#### Chapter No. 3



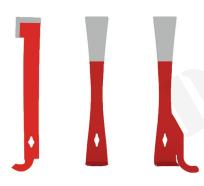


# TOOLS FOR THE BEEKEEPER

There a number of tools that make it easier and safer for the beekeeper to manage their bees.

# HIVE TOOL

The hive tool is an essential piece of equipment for working with honeybees. It is used for prying boxes/frames apart and scraping wax and propolis (plant resin brought back by the bees and used to cement the frames). There are many different styles of hive tools, some have hooks to help lift the frames out the box.





Curved end used to move and lift frames out the box.

Flat end used to pry boxes apart.

# FRAME GRIP

A frame grip provides a secure grip to the top bar of a frame. This can provide help during the removal of frames from the hive bodies. Because of the pinching action of the frame grip pay special attention not to crush workers as you begin to clasp around the top wooden bar of the frame.

#### BEE BRUSH

The bee brush is used to gently remove small numbers of straggler bees that are left on a frame or other piece of equipment. Bee brushes are not meant to be used to push large numbers of bees off a frame, that is usually done by securely holding the frame and giving it a quick and sudden shake over the open colony. Bee brushes can be used to sweep unwanted debris off frames or from the hive bottom board. If bees have attached themselves to the brush, a good shake will often dislodge them.



### SMOKER

The most important tool for beekeeping is the smoker. Opening a hive can prompt a defensive response from the bees. A couple of puffs of smoke can have a calming effect on the honeybees. The most common smoker fuels used in Hawaii are: ironwood pine needles, dry grass, dried bamboo, dried koa leaves, dry wood chips or shavings, unpainted cardboard and strips from burlap bags. We do not recommend using woods or plants that were previously treated with toxins (ie paints, oils, pesticide). Smokers come in different shapes and sizes. Some also have heat guards to prevent accidental injuries.



#### LIGHTING A SMOKER



Choose smoker fuel (dry grass, leaves, burlap, etc.)



*Light a small amount of the fuel (newspaper can also be used as starter) and place in smoker.* 



*Continue to add fuel to the smoker and repeatedly pump air.* 



Close the lid and continue to pump air.

Smoke should be "cool" and white, and no flames or debris should be emitted from the smoker.

# **PROTECTIVE CLOTHING**

Even the calmest colony can have a rogue bee that may act defensively and sting the beekeeper. Because bees respond to the alarm pheromone of nestmates, a single sting can lead to more bees attacking, which will cause discomfort, and in some cases can be life threatening. We always recommend wearing protective clothing when managing your hives.



Beesuits provide the best protection for beekeepers. The headpiece is attached via zippers to the beesuit. The picture above shows two local farmers wearing two different styles of protective clothing.

Gloves are also important protection for beekeepers, they are usually made of leather and come in different sizes. Rubber gloves, like the ones used for dish washing or bathroom cleaning are an alternative option to the more official beekeeper gloves.

