



# Apiculture Factsheet

<https://www2.gov.bc.ca/gov/content/industry/agriculture-seafood/animals-and-crops/animal-production/bees>

## Factsheet #106

### BEEKEEPING EQUIPMENT

There are various types of beekeeping equipment in use but it is recommended for beekeepers to use only standardized and common equipment for ease of operation and higher resale value.

#### Hive Bodies (Supers)

Supers are the wooden boxes that hold the frames of comb. For Langstroth or standard equipment the outside length of the hive is 20" (50.7 cm) and the width 16 1/2" (41.8 cm).

There are three common depths in use:	Standard (full depth)	- 9 1/2" deep	(24.0 cm)
	Medium (Dadant*)	- 6 5/8" deep	(16.8 cm)
	Shallow	- 5 13/16" deep	(14.7 cm)

*\*Dadant boxes are also called "3/4 depth" boxes.*

Supers are generally made of pine or fir. Plywood is unsuitable because of weight and swelling when moisture is absorbed. Cedar is too soft and its long grain often results in cracks.

#### Frames

The lengths of the frames are the same for all depths of hive bodies. The depth of the frame varies with the hive body used. The length of the vertical end bar equals the depth of the frame.

Frame depths:	Standard	- 9 1/8" (23.0 cm)
	Medium	- 6 1/4" (15.8 cm)
	Shallow	- 5 3/8" (13.6 cm)

#### Beeswax Foundation

Since all frames are the same length, all foundation is also the same length - 16 3/4". Depth varies according to size of frame:

Standard	- 8 1/2" (1.5 cm)
Medium	- 5 5/8" (14.3 cm)
Shallow	- 4 3/4" (12.0 cm)

#### Foundation

- Plastic foundation (~wax-coated) inserted into a standard wooden frame has become most popular because of durability, re-usability and cost. One-piece plastic frame with foundation (~Pierco frame) doesn't require assembly and is equally durable.
- For beeswax foundation, the pre-wired wax foundation is recommended.
- Unwired foundation is available and widely used for candle making. When used in the hive, only apply to brood frames, as it not strong enough for honey extraction.

#### Types of Frames

- **Standard (self-spacing) wooden frames** - most popular. The vertical end bars are best to buy, instead making them yourself because of the need of precise dimensions.
- **Non-spacing** - i.e. no shoulders on frame; easy to make. Frame spacers are used as frame rests, or staples are sometimes used to provide spacing.
- **Plastic Frames** - labor saving, durable and re-usable - foundation can be wax-coated to improve acceptance. Excellent for honey supers.

### **Hive Lids**

The telescoping lid with metal covering is standard. Plywood is most often used and is durable when well painted. Lids may also be insulated with wood shavings, styrofoam or fibreglass within the construction.

Migratory lids are temporary and used during transportation. The lid is flat with lips only on the front and back which allows hives to be placed close together.

### **Bottom Boards**

Most Bottom Boards are now wire-screened with an open area in the center. Various models also include a removal tray underneath the screen for pollen collection and Varroa mite counts. It is recommended to place the bottom board on cinder blocks or wooden frame to ensure space underneath for improved air circulation. Larger beekeeping operations may use modified pallets that include four integrated bottom boards into one.

### **Inner Covers**

The standard inner cover has rims on both sides around the perimeter which makes it reversible; one rim is solid and uninterrupted and used in the winter. The other side may have a 2 inch (~5 cm) section removed and is used in the summer as an top entrance.

### **Queen Excluders**

Metal or plastic excluders are used to prevent the queen from moving up into the honey supers. The space between the wires of the grid is sufficient to allow worker bees to pass through, but not queens or drones.

### **Bee Hats**

A well-ventilated sun helmet is usually used, made from plastic or woven material. Cloth or felt hats should not be used as bees may become defensive.

### **Bee Veils**

The folding wire veil is used in combination with a bee hat. The veil can be folded up when not in use, it is durable and provides for good air circulation and visibility. The nylon net veil is also popular as it can be rolled up and placed in a pocket. It is very good for air movement but can easily be damaged by sparks or contact with a hot smoker. Some other designs include hat-veil combinations that are zippered onto the coverall.

### **Coveralls**

Coveralls are considered essential. White or pastel colours are most suitable because of coolness. Dark colors cause defensive behavior in bees.

### **Smokers**

A smoker is essential. Several types and sizes are available. A variety of fuels can be used including burlap (~jute) and rolled-up pieces of cardboard. The smoke bomb (an aerosol container) is useful for quick checks and for high (forest) fire hazard where open fire is prohibited.

### **Hive Tools**

A suitable hive tool is essential; several types are available, all made of durable spring steel.

### **Pollen Traps**

Used for short periods of time for the collection of pollen. Various types are available.