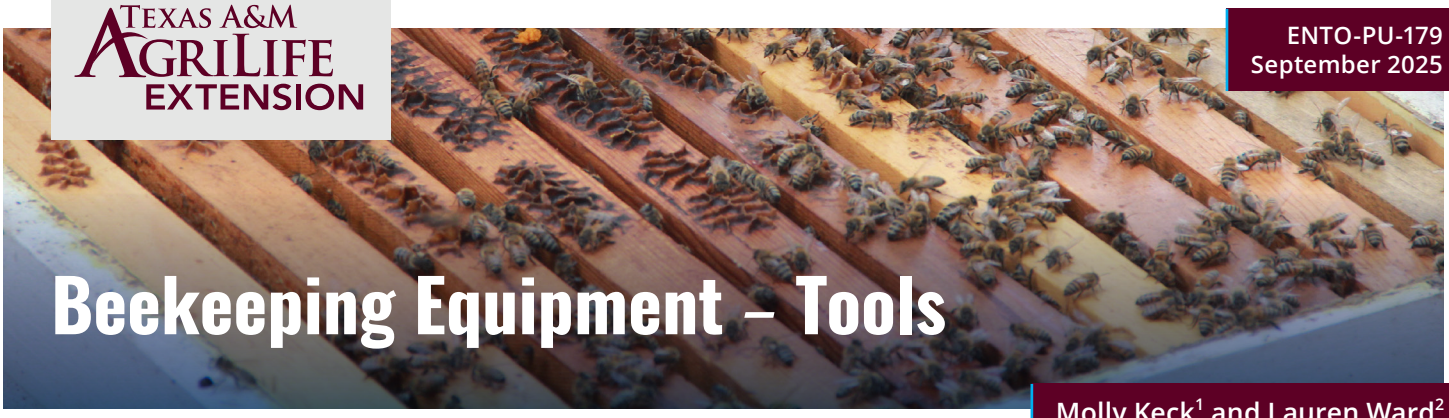
ENTO-PU-179
September 2025



Beekeeping Equipment – Tools

Molly Keck[1] and Lauren Ward[2]

Each beekeeper's toolkit looks slightly different. The wide array of tools and gadgets made for beekeeping can be overwhelming. Luckily, there are only a couple of essential items. Here, we will cover those as well as some of the most common add-ons.

A hive tool (Fig. 1) is a must for beekeeping. Hive tools help beekeepers get into their hives and manipulate frames and equipment. They provide the leverage needed to break propolis—a sticky substance bees produce from plant resins and wax. Worker bees use propolis to seal cracks within the nest, including between all movable hive components.

Figure 1. Standard, J-hook, and other hive tools

Beekeepers use hive tools to open the top of the hive, loosen and remove frames, clean propolis and burr comb, and break apart boxes. Hive tools should be used with slow, steady movements to avoid jarring and unduly upsetting bees. There are many sizes and types of hive tools available, depending on your preferences.

Standard hive tools have a flat, sharpened end for prying between boxes and lifting/moving frames. The opposite end is curved to provide a little more leverage and help in scraping.

J-hook hive tools (Fig. 2) also have a flat, sharp end, but on the opposite end, they have a J-shaped hook. This hook is specially designed for lifting frames. It is slid under the top bar of one frame while the back corner catches and rests on the next frame over to act as a fulcrum. This increased leverage allows the beekeeper to pull up propolized frames with little effort.

A smoker (Fig. 3) is arguably the most important tool for a beekeeper. Smoke masks honey bees' ability to sense pheromones, which are detected by the antennae. Alarm pheromones that would otherwise elicit defensive reactions, such as stinging, are suppressed by appropriate use of smoke. This is why smoke is said to "calm" bees. Smoke can also be used to move bees out of the way so fewer are squashed when performing inspections.

Figure 2. Using J-hook hive tool to pull frames up

Figure 3. Smokers

[1] Senior Program Specialist, Integrated Pest Management and Apiculture Programs

[2] Extension Program Specialist I, Apiculture Program

Smokers may have plastic or leather bellows, tall or short canisters, round or cone-shaped tops, and come with or without heat shields. A smoker with a heat shield is recommended to prevent burning yourself and/or the bee suit.

All beekeepers have their preferences regarding smoker fuel. Smoking materials may be purchased (e.g., burlap, smoking pellets, or cotton) or found on the property (wood, pine needles, and other burnable items). Avoid painted or treated materials, or anything that may contain an insecticide.

Before you start your smoker, consider fire safety. This process can send out sparks and cause a fire in dry/windy conditions. Always take weather conditions and your surroundings into account and, ideally, have water and a fire extinguisher nearby. To start, use a handful of easily ignitable material. A match or lighter is plenty to set less dense materials alight. Starting with denser fuels (e.g., wood pellets) may require a propane torch. Once you have a flame, use the bellows to stoke the fire while adding material on top.

Practice makes perfect. Material that is packed too tightly on top will choke the flame, but leaving it too loose will result in burning hot and going through fuel quickly. Ideal, "cool" smoke originates low in the smoker canister. Setting the top layer of fuel on fire and shooting flames out of your smoker does not have the same calming effect on bees!

Smokers need to be refilled periodically with extended use. The length of time between refueling depends on use, smoker size, and the material used as fuel. Once finished, always make sure the fire in the smoker is completely out and cool before walking away from it—smokers have a tendency to reignite. Beekeepers may plug the top opening to smother the fire or dump their smoker fuel into a container of water. It is a good idea to have a container to set your smoker in when not in use, such as a metal can with a lid.

Many beekeepers use bee brushes (Fig. 4), which are useful for moving bees off frames or boxes. Brushes are especially useful when clearing bees off honey frames for extraction. They are also handy for delicate tasks such as brushing bees off queen cells or natural comb, which lacks the internal support provided by foundation.

Figure 4. Bee brush

Brushes should be used with a flicking motion—not a smooth brushing motion—to avoid tangling bees in the bristles. The bristles need to be soft. Do not allow the bristles to get gummed up with honey, wax, or propolis, as this will damage the bees' wings.

A frame grip (Fig. 5) can be another useful tool. This is particularly true for beekeepers with arthritis or other grip-strength issues. Frame grips allow the beekeeper to pick up the frame with one hand, leaving the other hand free. Frame grips may be built with a small hive tool welded to the end, making them an all-in-one tool.

Figure 5. Frame grip

Frame holders (Fig. 6) can help when inspecting frames. They are simply a place to temporarily hang a frame that is out of the way and off the ground. Experienced beekeepers often pull out one frame to create more space to move the rest. This practice lessens the likelihood of rolling bees against adjacent frames, which can occur when pulling them through the tight space of a full box.

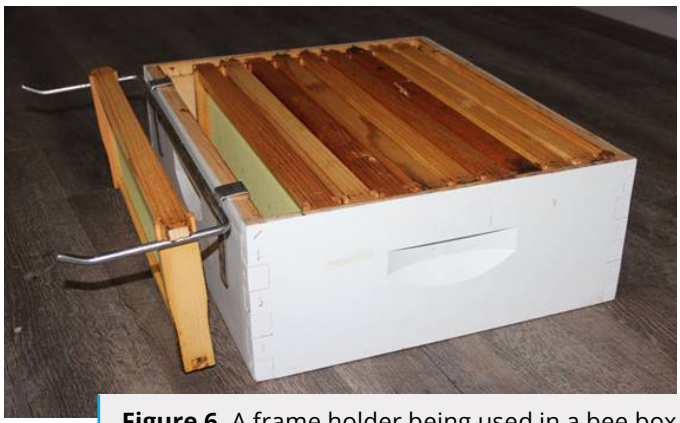


Figure 6. A frame holder being used in a bee box

Additional online resources available through AgriLife Learn, Beekeeping 101:
https://agrilifelearn.tamu.edu/s/product/beekeeping-101/01t4x000002ciQPAAY
and Texas Master Beekeeper Program:
https://masterbeekeeper.tamu.edu/