

In Support of Plastic – by Dennis Hertzog

Much has been written about the negatives of using solid plastic frames in beehives. So it is with considerable risk of ridicule and becoming ostracized by some of my old school beekeeping colleagues that I offer a different perspective and outline a few merits and tips associated with the use of plastic frames. My success in using the same set of frames again and again is based on a 4-year rotation system of frame removal, cleaning, re-waxing and reusing. The ensuing text will hopefully help new and old beekeepers alike in making informed decisions regarding frame choice.



First, there is one absolute “must” when using this product. Solid plastic frames just do not come with enough of a wax coating for the bees to want to draw comb directly on the frames. I discovered this during my first year, my first month, *my first week* of having bees. It seemed I spent more time scraping burr and brace than my bees did in building good comb. But since those early days, I’ve developed a very easy frame preparation system. My recommendation is to have a few blocks of fresh beeswax on hand. My experience is the bees prefer newer wax having a pleasing scent rather than old blocks with little odor. Melt some wax (over low heat using a double broiler pan) until liquid. Using a 3-inch foam brush, paint a few swipes of wax on both sides of each frame. Be liberal in applying a complete coating. I have found that the bees will readily take to these wax-painted frames without hesitation and build beautiful comb! In subsequent honey harvest years, wax cappings and other fresh scrapings can be melted and used to paint recycled frames.

Speaking of the honey harvest, my wife and I are typical hobbyists and only own a small two-frame extractor with grandchildren and the neighborhood youngsters serving as our essential hand-crank laborers. We have an extraction party each summer with all participants getting a taste for the process as well as a sample of fresh honey! With solid plastic frames, these eager kids can crank as fast as they want without fear of damaging those heavy honey-laden combs. Natural wax foundation would surely collapse under this amount of stress.

With mounting evidence that pesticide residues are absorbed directly into wax, it is prudent to remove older dark-colored brood foundation from our beehives on a regular basis. Four years per frame is my general target. During a recent club discussion, our speaker, Michael Traynor, coauthor of [Simple Smart Beekeeping](#), spoke at length on the benefits of rotation. He also feels emphatically that our young bees are healthier if they can regularly exercise their wax glands to build new comb, another reason for a yearly cycling of some fresh frames. Once the honey harvest is complete or in spring, consider cycling older honey super frames (never having brood) into the brood chamber. As with natural wax foundation or wax-coated plastic, the bees will build new comb best during a nectar flow and least on a dearth.



So what does one do with old grunge-filled or even moth-ridden plastic frames? They can be scraped, cleaned, recoated with fresh wax and used again. After removal, allow the bees to rob out any nectar that is left. Then scrape the majority of old cocoon casings, propolis, pollen, etc. and save these scrapings for the solar wax melter. Even the oldest and grungiest mess seems to yield a decent amount of wax when set out in the hot sun.

Old pollen can even add some extra color and brightness to this wax. *However, I do not use this wax again in beehives.* The old wax is used for making candles, etc. and never used for repainting frames. Again, fresh wax mainly from cappings and scrapings are used for repainting.

A thorough pressure washing of the old frames can easily remove leftover cocoon shells, propolis, pollen and even mold residues. These frames, now looking virtually new, can be recoated with fresh wax and again cycled back into the hive. A few thoughts on pressure washing: Pavers or other hard surface make for a suitable frame cleaning station. Don't pressure wash directly on grass or you'll be shooting mud everywhere. I use the 25-degree setting as this wider angle makes for fewer sweeps. Get close and blast just a few inches away! I have also found that after finishing a side, reversing that same side and blasting again makes for a cleaner and more thorough job. Wear safety glasses as tiny projectiles can fly in any direction. And yes, this is a rather messy job but well worth the effort! Cleaning and recoating solid plastic frames does take some time, but for this practical hobbyist, the process works quite well. I'm still using recycled, recoated frames from 10-plus years ago.



Here's a useful technique for getting bees to build fresh comb on wax painted frames in a new honey super when using a queen excluder. During the early nectar flow, move a frame or two of brood above the excluder but make sure the queen is not on one of those frames!! Bees will immediately move into the honey super to tend the brood and subsequently begin combing out and filling adjacent frames. Once the brood has emerged, those original frames will also be filled with nectar.



One practical caution concerning early spring conditions: Ears on solid plastic frames can crack, especially when using a “J” hook style hive tool. Always break the propolis and wax between frames before trying to leverage a frame on a cool spring day. The right approach may be in simply exercising a bit more patience.

I can only reiterate that I’ve had excellent success with plastic frames by first painting each with beeswax and that the entire cycle of cleaning and reusing these frames does work. Frame choice is certainly personal as there are pros and cons to using wood, plastic or in combination. And the argument concerning the use of any product that does not get reused/recycled is absolutely valid. But there may also be some logic in being able to use the same group of frames indefinitely. The reader can be the judge.