"Minimalism is asking why before you buy."
— Francine Jay

When presenting my Standard Equipment lecture to bee school students, I tell them that my goal is not only to give advice on what equipment they need to successfully keep honey bees, but perhaps more important, what equipment they do not need. It is possible that my advice about the latter could save them an amount that covers the cost of bee school. Don't get me wrong – I have close friends who own and work in beekeeping supply shops, and they need our money! But they have plenty of worthwhile merchandise for us to load up on without wasting money on things that aren't value-added.

A classic poster-child for an unnecessary bit of bee stuff is the so-called landing board. Why do we think honey bees benefit from a wide, slanted entranceway? If you are like me, you came by that assumption quite innocently: a classic landing board was part of the all-inclusive Beginner Beekeeper Kit that I purchased many years ago from a major on-line supplier. The beekeeping universe was a complete mystery to me, so if the supply house included one in their bundled set of starter paraphernalia, who was I to question it? It must be necessary to beekeeping… perhaps even vital for the health and wellbeing of honey bees, right? And a study by researchers at the University of Queensland (Australia) and Lund University (Sweden)[1] showed that the body angle of a landing honey bee matches the angle of a landing board. What more needs to be said… right? Capping it off, some beekeeping supply houses have poetic ads claiming, "Landing Boards give your bees an easy and safe place to land when returning to the hive. The angled landing surface also allows for easy takeoff when your bees are heading out to forage."[2]

The author's very first hive set-up included cute, slanted landing boards at the entrances. They came with the kits he purchased so they are obligatory, right?

But step back a bit, out of the weeds created by tradition, silver-tongued salespeople and grad students desperately grasping for research topics. My 1980 edition of ABC and XYZ of Bee Culture[3] has a photograph of our classic landing board but it is described as important for an entirely different purpose: as a hive stand that sits directly on the ground. In fact, many suppliers label it as such in their catalogs. It is interesting to note that the ABC article only has a sloped front on the single-hive version of a stand; the two-hive version does not.

Here is where the confusion originates. What we call a landing board was not invented for the purpose of giving honey bees a wide, sloping runway for takeoffs and landings. It simply raises the hive above the damp earth. It is likely that the wide porch is an attempt to help hobbyists keep the entrance clear of weeds. And perhaps the slope is to help ensure that, because of that porch, rain doesn't backwash into the entrance. Also, the front extension would add stability to the whole set-up, in the same way that outriggers prevent canoes from tipping over.

However, in our area, well-informed beekeepers know that our hives do best when

[1] C. Evangelista, P. Kraft, M. Dacke, J. Reinhard, M. V. Srinivasan, "The moment before touchdown: landing manoeuvres of the honeybee Apis mellifera", *J Exp Biol* (2010) 213 (2): 262–270. https://doi.org/10.1242/jeb.037465

[2] https://hiddenhollowhoney.com/products/landing-board?srsltid=AfmBOopYqrYyMsYlp2zEog3jzwhrJz8nuWplHweDW2hGYe8WuQ7xmzUo

[3] A.I. Root, ABC and XYZ of Bee Culture, The A.I. Root Company, Medina, Ohio, 1980, p. 32.

they are raised well above the ground, not by just a few inches. One reason for that is to reduce predation by skunks. Raising hives something like 16 inches above the ground helps with that, as well as with damp-rot. We also want our screened bottom boards to be high enough that dislodged mites cannot crawl back up to the nest. Perhaps the most important consideration is that putting hives on adequately raised stands puts them at a working height that is much more comfortable for our aging backs. "Don't Forget the Hive Stand!" discusses further criteria for well-made hive stands.

What do the professionals do? Migratory beekeepers typically place their hives on wooden pallets, four to a pallet with the entrances oriented so that each faces a different direction (e.g. north, south, east, west). The height from the ground is the height of the pallet. Nothing protrudes farther than the bottom board and the front/back lips of the cover (the covers don't have sides), enabling hives to be efficiently and securely stacked on flatbed trailers.

So, landing boards have gotten confused with hive stands as if they are a separate, necessary apparatus. A wide, slanted entrance ramp isn't necessary in and of itself. Anyone who is not yet convinced that so-called landing boards are as useful as a solar-powered flashlight or dehydrated water should take a chair out to their hives, sit a spell and watch the entrances. While a bee will occasionally land on the slanted board, that is quite unusual. Seasoned foragers will often fly directly into the entrance. Even more rare is to see a bee walk all the way out to the slope to take off. There is just no reason for them to do so, despite what poetic ads may say.

All that said… if you like the way that landing boards add architectural flair to your hives or you like seeing the occasional honey bee walk on them, do not let me discourage you from using them. These are your hives and your bees, and you are not harming them, yourself or me in any way whatsoever. Just realize that extra bit of equipment is a vestigial remnant of another purpose, a purpose that I hope you are satisfying with a much more suitable hive stand.

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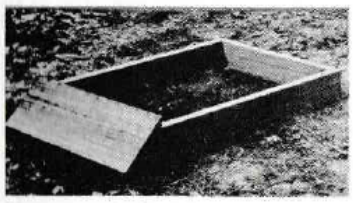
Note: All previous articles are archived at https://baileybeesupply.com/educational_resources/

Hive Stands

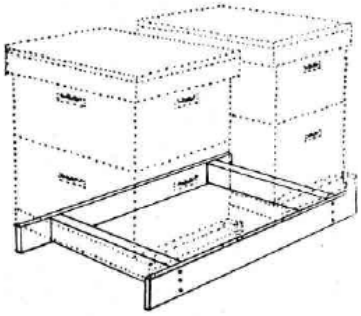
While a hive can be set directly on the ground, yet on account of the danger of dampness and the rotting of the bottom board, it is advisable to set it on pieces of boards, bricks,



Single hive stand

concrete blocks, or common drain tiles. Bricks or tile, if six-sided or square, are very commonly used, and answer an excellent purpose. Concrete blocks of any shape or form can be cast in wooden forms. Pieces of board, scantling, or plank may be used, but it is far better to nail them together and place them on the ground edgewise.

The hive stands—brick, concrete blocks, tile, or boards — should be firmly imbedded in the soil in such a way that the front end of the hive will be lower than the back. The purpose of this is to allow the water from beating rains or from condensation within the hive during winter to run out of the entrances.



Double hive stand

Some producers use a double hive stand—that is, a stand after the pattern of the plain single stand, but long enough and wide enough also to take on two hives crosswise and yet leave a space of six or eight inches between. (See illustration.)

The front and rear boards are made of one-inch lumber, preferably unplaned, from three to four inches wide. These two pieces are tied together by a couple of scant-

The 1980 edition of The ABC and XYZ of Bee Culture shows our ubiquitous landing board. The description, however, is for a hive stand, and not a very good one by today's standards.