

“Become includers of what you do want instead of excluders of what you don’t want.”

— Abraham Hicks

New-beekeeper rule number 23 is that, at the start of the nectar flow, we should put queen excluders on our hives and top them with honey supers. But grizzled old beekeepers call the devices Honey Excluders rather than Queen Excluders, because they often deter the passage of worker bees and therefore tend to decrease the amount of honey stored in the supers.

Who is correct? As with most things in life, that isn’t the right question, so arguing over it is unproductive. In this case, the right question is two-fold:

1. What is the root problem?
2. What, if anything, can be done to address that?

The fundamental goal

We shouldn’t blindly slap a queen excluder on a hive just because our beginner’s textbook said to do so. As with any action we take in the bee yard, we should clearly understand why we are doing it. Otherwise we will do things that are inappropriate or we will fail to do things that are useful.

What is the point of a queen excluder? By definition, it is a device designed to keep a queen out of a designated area. Typically, it is a flat grid-like apparatus featuring wires that are spaced about one-seventh of an inch apart. That is just barely wide enough for a worker bee to wiggle through but too narrow for a queen and way too narrow for a drone to do so. There are plastic and all-wire versions as well as wire bound by a wooden frame. With a queen excluder over the brood nest and under the honey supers, workers can store honey in the supers but the queen cannot traverse the barrier and lay eggs there.



Queen excluders are an iconic piece of beekeeping equipment. Why do some people say bad things about them? Why do we even use them? Is there a way to make them work without any downside?

What’s wrong with brood in the honey supers?

There are beekeepers who simply let the queen wander at will, unconcerned about brood in the supers. After all, such brood doesn’t presage the end of life as we know it. But it is not best practice and it does create a myriad of problems.

For one thing, when we extract our honey, we don’t want larval parts and juice mixed in. Not only would dead baby bees not look good on the list of ingredients, larvae are very juicy and so would raise the moisture content of our honey. Too-wet honey is likely to ferment.

Another problem with brood in the surplus honey supers is that now the comb isn’t pristine wax, making off-season storage much more difficult. Comb that is only comprised of wax is easy to store as long as the comb is exposed to air and light. No other preparation or attention is needed. The larvae of wax moths and hive

beetles cannot survive on a diet of pure wax. They feast on the old cocoons, pollen scraps and the miscellaneous baubles and bits that are found in brood comb – the stuff that gives it a brown color over time. But I have honey super frames that are over 15 years old (they are only used two months a year so their “odometer” actually has less than three years on it). The reason they haven’t been destroyed by pests in all that time is that they have only ever had honey in them.

To prevent brood from ending up in our extracted honey, three obvious solutions come to mind:

1. Don’t extract frames that have brood on them
2. Delay extracting until all of the brood has matured and eclosed
3. Prevent the queen from laying in the supers

The first option is wasteful -- honey is an expensive commodity. The second option is not only inconvenient, but what will prevent the queen from continuing to lay on the same frame year-round? The third option solves the problem.

Can we have our cake and eat it too?

Hopefully I’ve convinced you that while not earth-shattering, brood in the surplus honey supers does cause issues and isn’t a good thing. But don’t queen excluders deter honey storage?

In my experience, the answer can certainly be “yes.” I have had colonies where the bees absolutely refused to go through an excluder. If you’ve ever watched a bee wiggle through the wires, you can understand why some bees just say, “Forget it!” And remember that the worker is doing this squeezing trick with a full honey stomach. But another colony’s bees may pass back and forth through the barrier as if it wasn’t even there. Why the difference? I don’t know, although all bees, just like all people, are not alike. Some are a bit more stout than others, and that characteristic runs in families. Regardless, it is clear that a queen excluder can deter the passage of workers as well as exclude queens.

But that doesn’t mean we have to sacrifice honey to prevent the problems mentioned above. There are ways to employ queen excluders that diminish or eliminate their effect as honey excluders.

One strategy is to make the area in the honey super attractive to the bees, luring or even compelling them to move up through the obstacle course. First, never put just foundation in a box above an excluder. Why would a bee go through an ordeal to get into the attic if there is nothing there of use? Either mix foundation with drawn comb or leave off the excluder while the foundation is being drawn. If the latter, keep a sharp eye on comb-building progress to make sure the queen doesn’t get up there just as the comb is completed; that would spoil the whole game. Once there is drawn comb, the smell is attractive and there is a reason to move up. To make that reason imperative, put some open brood above the excluder. If your brood frames aren’t the same size as your super frames (mine are deep and medium, respectively), you can configure the hive, from the bottom up, as a deep brood box (with queen), then a queen excluder, then a medium honey super with foundation or empty comb, topped by a deep brood box (no queen but open brood). The nurse bees essentially are required to move up to service the larvae. Take careful note, however, that open brood separated from the queen’s nest may incite the workers to build queen cells on those frames, and that could trigger swarming. So be sure to monitor those frames and remove any queen cells that are created.

Workers to the sides, queen to the middle

The queen excluder placement technique that I’ve used for many years is simple and works regardless of what is placed above the excluder. It relies on the fact that the queen tends to lay eggs toward the center of the frames. Even when a frame is filled wall-to-wall with brood, the topmost corners often are reserved for pollen or honey stores, not egg-laying, so a good queen doesn’t go there during her normal regimen.



Turning a regular queen excluder by 90 degrees solves the "honey excluder" problem while effectively keeping the queen out of the honey supers until a natural honey-band is created.



The sideways excluder prevents the queen from moving up but allows plenty of transit room for worker bees.

The method I use takes advantage of this fact by placing the excluder over the queen but leaving an open passageway for the workers at the ends of the frames. All I do is rotate the excluder 90 degrees from the typical placement. Workers then have unimpeded



These bees have made a very good start on a honey band that will become a natural queen excluder, but there is still some work to do in the center before it becomes a reliable barrier.

throughput to the honey supers and at the same time the queen's path is barred by the excluder over her head. This provides the best of both worlds.

The result will look a little odd – the excluder will stick out beyond the boxes on both sides, like short little wings on an airplane. There will be a small gap between the upper and lower boxes, which the bees may or may not fill with propolis.

I'm always asked, "Isn't that gap too big? Will rain get in? Will it allow easy access to robbers?" In my experience, the answer to all of those questions is, "No, this doesn't cause any problems." I do not use wood-bound excluders on my hives, so the gap is smaller than a bee can transit. But even with wood-bound excluders, this is being done during a honey flow, not robbing season, and it gives a nice upper entrance for foragers to come and go. And if any extra rain were to somehow get in (e.g., if the rain were being driven sideways by a hurricane), it wouldn't be all that much. But the proof of the pudding is in the eating, and I don't witness any adverse issues using this method. Plus, the queen excluders don't remain in place more than a week or so, as described below.

Stop-gap solution

I only use sideways-excluder technique for a very short time. Once the bees have been

working the nectar flow long enough, there will be a band of capped honey at the top of the uppermost brood box, underneath the queen excluder. Once that band becomes two or three inches wide and spans the entire box, it serves as a natural queen excluder. A well-behaved queen won't cross honey to lay above it – that isn't the way that a natural brood nest is arranged. So with a “honey-band queen excluder” in place, the artificial wire queen excluder is redundant and can be removed. Then the workers have no impediment at all with respect to moving to and from the honey supers.

Be sure to periodically check the condition of the honey band as the nectar flow progresses. Particularly when the flow begins to slack off, the brood nest can move up through the “honey-band excluder” and the queen can then lay in the honey supers.

Good management

I think that the advice here falls under the categories of “work smarter, not harder” as well as “work with the bees, not against them.” Understanding brood nest biology allows us to optimize our honey harvests and avoid the many pitfalls associated with brood in the honey supers. If you have any favorite techniques that accomplish the same goals, I would love to hear about them!

*Randall Austin is a NC Master Beekeeper who keeps a few honey bee hives in northern Orange County, NC. He can be reached at s.randall.austin@gmail.com.
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