

Does Cell Size Matter?

Since I installed these six frames with no foundation some 2 months ago in a poly nucleus, I decided to check on the size of cells the bees made with no starter strip to influence them. Compared with the standard foundation cell size of 5.4mm, the bees had made the cells to their body size at 4.9mm. This is a reduction in cell volume of just over 20%.

Whether this reduction is enough to prevent the male and female varroa mites moving around the cell and mating, only time will tell?



I was prompted to try this approach after viewing Michal Bush's

You Tube video: <https://www.youtube.com/watch?v=-rwDPXJdJG8> on 'Lazy Beekeeping'

If you click on the above he discusses the benefits of 'foundation less frames' some 25 minutes into the video. After 40 years of beekeeping with 200 colonies he found, by allowing the bees to reduce the cell size to 4.6mm, he has no problem with varroa and uses no chemicals to treat his bees. Also Michal Bush says that the US cosmetic industry no longer use contaminated wax from the US but prefer to obtain it from Africa where they operate top bar hives, which leaves the bee to construct their own cell sizes. Additionally they cannot afford chemical treatments and their bees are not dying out or they would not have sufficient wax to meet the US demand!!

This 1 hour 16 minute video is well worth watching in full to learn from his 40 years experience of beekeeping shortcuts.

If you Google 'Bees Cell Size,' you will find several more articles discussing the benefits of Reduced Cell Size.

This 2nd picture shows how much comb they had constructed in one week & after 2 months, all 6 frames were complete with foundation.

So the advantages appear to be:

- Not having to buy foundation which may import disease in the wax.
- The bees construct a cell size tailored exactly to their body size.
- Thus leaving insufficient room for the varroa to breed?
- The speed of their construction appears to indicate that the swarm has an immediate sense of purpose?



This sense of purpose was also demonstrated by the foraging bees' activity at the entrance. Normally a swarm in July is not worth a fly but in a poly nucleus most bees will survive a winter. Time will tell?

The only disadvantage is they build comb shaped as they do in the wild, with a bee space all around the edges.

This is why the fishing line or crimped wire support is important.

I have another poly nucleus with a swarm on drawn foundation, captured earlier and this shows much less activity and only occupies 2 frames and does not look as though it will get through the winter.

I know this may be down to the queen and comparing only two colonies is not conclusive but I am so impressed with this 'no foundation' experiment that I will construct all my replacement brood frames this way in the future.

N.B.

The super frames are not critical on cell size so these are best fitted with standard wired foundation with 5.4mm cell sizes, so they can be spun in an extractor without damage.

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