BEE NUMBERS - QUESTIONS & SOME FACTUAL ANSWERS

The Numbers Game

By Don Honey, Newbury and District BKA

There is a TV programme where a headline is shown and comedians are then asked to give their thoughts on what the story might have been about. One headline was 2000, which after the obvious thought that it might be about the millennium, made me think of how many eggs a queen may lay in a day.

Photo A

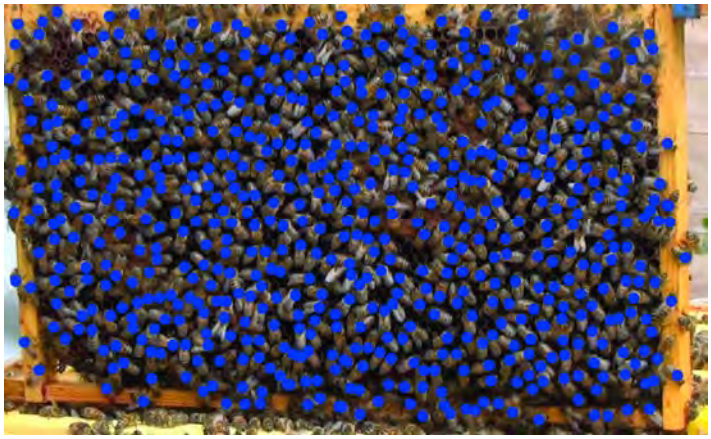
All photographs by Don Honey

True or false

Truthfully I do not know how many eggs a queen may be able to lay in a day when she has a mind to it, but 2000 does seem like a lot, poor girl. I have read this figure in various books and I must say it is a good statistic to throw into the conversation when talking to non-beekeepers in the pub who are prepared to listen to me enthuse about the hobby. How important that figure is, true or not, did however get me thinking about other numbers that might actually be useful.

Actual facts

A sheet of foundation for a National size brood frame will be impressed with approximately 2300 cells, so times that by 10 frames and then double it because the frames are double sided, and you have the grand total of a potential 46,000 cells in one single brood box. So if you see one side of the brood frame full of capped brood, then you can expect just over 2,000 bees to be emerging in the not too distant future. With that in mind you can then work out roughly how many bees will be in the hive at that stage of rearing. My eyesight is just about good enough to spot the various sizes of grubs, but it is not up to seeing or counting eggs, so I didn't explore that option.



Blue spots indicate each bee

Going into winter

If you look at a frame that is half full of capped brood, then you can expect 1000 bees to be coming up the ranks shortly. A quarter of a frame would have just 500 bees and so on. This sort of observation could give you useful information in the autumn when you are trying to calculate how many bees are likely to go through the winter. I don't think there is a definitive formula for these numbers, but if you keep some form of record, year on year, then eventually it should help you with your own particular style of beekeeping, your strain of bee and your location in the country.

The test

So here is your challenge if you fancy a little game. How many bees do you think there are on my three photographs? I will give you some options, which may or may not help you, but they certainly gave me some food for thought.

Photograph "A"
2150, 1437, 737, 432 or 288
Photograph "B"
1437, 737, 432, 288 or 148
Photograph "C"
737, 432, 288, 148 or 73

I took great pains zooming in on each shot and covered each bee with a coloured dot to do this factual research. It's one of those jobs you do on a rainy day, when there's no cricket on the telly, no bees to watch and you're trying not to raid the fridge or cake tin for another unhealthy treat.

I've put the answers at the end of this article, so don't cheat.

Why bother

Of the three photographs, "B" is the size of population of bees that I like to see on my frames because it gives me the ability to see what is going on. I can see brood, pollen, nectar, a waggle dance, a young bee emerging and also have the ability to look for any of those nasty signs of disease and wax moth, and not forgetting having a good chance of spotting the queen. I can't sleep for the whole week between inspections if I haven't see queenie. Seasoned beekeepers must, by now, be falling off their stands and shouting... "Look for eggs you idiot!" Easier said than done. For me my approach far outweighs the need for BIG numbers and BIG harvests. Photograph "A" leaves me shaking in my boots because I know if I make a sharp or sudden movement, 3000 bees are likely to take to the air, and may take a shine to my flesh. Actually by now you must have realised that I do exaggerate a tad, because most of my bees, most of the time, are quite calm, even when I do give them a little nudge by mistake.

Not for everyone

I must stress that my particular preference for smaller numbers of bees in the hive should not be taken as the right option. I feel very confident in this system because I use WBC (cavity wall) hives that give additional warmth over the winter months. This in turn means less numbers to maintain cluster heat. All this starts to get very technical, and over the years there are many factors that change whether the bees do or do not survive the winter. I have never lost a colony because of cold, so perhaps I have been very lucky.

Photo B

Photo C

The outcome

This year I successfully brought two nucleus colonies through the winter, both of which have gone on to be full size and productive with no sign of swarming for this year. Both these nucleus colonies came as a result of artificial swarming from the previous year from a colony that has all the traits that I like. They are not perfect by any means, and I say that after helping another beekeeper with bees even more placid than mine, but I do feel confident with them. Two years ago one of my hives was showing signs of aggression, but were extremely productive, and at the cost of very high numbers. It was this experience that lead me to consider my options. It is now two years after that experience and I was able to let that queen go! Her offspring were used very successfully to make up numbers in other hives that could do with a few more helping hands, but their manners were soon knocked into shape by the pleasant bees. This has proved to me that this beekeeping lark has a lot to offer, particularly if you are good with numbers.

Answers

Photograph "A" has 737 bees "B" has 432 bees and "C" has 148 bees. How did you get on?

Final count

211lbs of honey off five hives.

BINGO
Bees In Numbers Get Honey!