

Swarm trapping can be lots of fun and there is plenty of room for experimenting and increasing our knowledge. Back in the mid 80's I started a program at the Carl Hayden Bee Research Center to develop an effective way to lure swarms into traps or boxes. The key turns out to be the pheromone lure. Swarming bees use their Nasonov pheromone as their main chemical cue to organize house hunting, and what I did was make a synthetic slow release Nasonov pheromone lure that lasts about a year and is wonderfully attractive to swarms. The trap itself, the location of the trap, the time of year and other factors are also important. For European bees the best traps are the pulp based traps or old hive boxes. Cardboard boxes, plastic boxes, buckets, etc. are not suitable nests for bees and the bees recognize that. The result is very poor swarm occupancy in traps made of those materials.

Until the pheromone became available, the best attractants were hive materials, especially old combs, propolis, etc. Africans used hollow logs with bee materials inside quite successfully to attract swarms. Part of our investigations were to determine just how important pheromone was and whether we could "tweak" the system by substituting, adding to, or deleting pheromone. In new clean traps, those with pheromone attracted 19 swarms; those without pheromone attracted only 4 swarms (Schmidt, J. Chem. Ecol. 20: 1053-56 [1994]). This clearly indicated that without pheromone most swarms were getting away.

But what about old comb, and other hive products? A paper is just now submitted to address that situation, but some of the results are summarized in an abstract in the Dec. 1990 issue of American Bee J. on p. 812. In essence, it turns out that if one compares traps with pheromone as well as either an added old comb or that had housed a colony, with traps lacking pheromone, but had an added old comb or had housed a colony, the pheromone traps caught 13 swarms to the 3 of the traps with comb and no pheromone. This ratio is no different from the "clean" test results of 19 to 4. Thus, old comb does not enhance the attractiveness of pheromone.

But what about old comb in the absence of pheromone? In this case (although it took a long time to attract enough swarms to get the numbers) the results were 11 swarms in traps with comb to 0 in traps without comb. This shows that in the absence of pheromone, comb has some attractiveness and is clearly better than nothing. The catch is that comb without pheromone is still not terribly attractive relative to pheromone. Bees have a distinct hierarchy of preferences!

A couple of other points. Comb does have the disadvantages of being attractive to wax moths which make a mess, comb can have spores of foulbrood or other diseases, and in some states it is technically illegal to have comb out where it can spread disease. Comb is also expensive and valuable, something you might not want to lose.

The main problem with pheromone is its availability. Mann Lake does sell the pheromone lures, as does Beemaster in Tucson (520 770-1463) and Fisher Enterprises (POB 1364, Coupeville, WA 98239; 360 678-8401) and perhaps some others. It is simple to make. The only problem is that the chemical suppliers will not sell the components to individuals (some excuse about lawyers and liability is my suspicion). Thus, beekeepers are basically stuck having to buy the pre-made lures.

Information on the lures is in Amer. Bee J. 129: 468-71 (1989). Ted Fischer brings up an interesting observation. Often when a lure is in a trap, one will see clusters of a few to several hundred bees that just “hang around” inside the trap for weeks. We see that also and do not know exactly what it means. It could be either scouts that are so attracted to the cavity and lure that they do not leave, or it could be that they got lost and stranded (their swarm might have moved on) and have no place to go and are just naturally attracted to cluster around their own pheromone. Maybe somebody has some observations on this.

Happy swarm hunting!

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