What's All the Buzz About?

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The purpose of this experiment was to determine the extent that colors, location, and/or smells affect how bees locate food. Three tests were conducted using a regular, white popup table, clear plastic plates, sugar water (50% sugar, 50% water), and colored paper- purple, green, yellow. First, bees were visually “trained” to come to sugar water under the color purple for a week after which the purple sheet and yellow sheet were switched. 83% of the bees continued flying to the original site- the plate that was under purple before purple was moved- where they were trained, ignoring the color change. The smell test was conducted next. The bees were retrained to the initial site. After one week, the colored papers were removed and the sugar water was moved to the opposite end of the table. Only 72% followed the location of the sugar water. This test seemed to confuse the bees, as there was the greatest variation in bee numbers between the plates. The location test was conducted last. The bees were retrained to the starting site. After one week, the table was moved fifteen feet to the right and rotated 90°. This was to eliminate the “internal compass”Wilson factor. 98% of the bees landed on the sugar water without hovering over the other plates. It was determined that bees primarily rely on their sense of smell to locate food but will also use familiar colors to find a new food source when the area that they remember is moved.

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