Bees produce several gases that can influence their behavior and hive conditions, but **carbon dioxide (CO₂)** is the most relevant gas that, when too concentrated, may contribute to hive migration or absconding (the abandonment of the hive).

**Key gases involved:**

1. **Carbon Dioxide (CO₂)**:
   * CO₂ is naturally produced by bees through respiration and is also a byproduct of fermentation in stored honey and pollen.
   * High concentrations of CO₂ in the hive can cause stress and disorientation, which may prompt bees to leave the hive in search of a better environment.
   * Ventilation within the hive is critical, and poor airflow can lead to a build-up of CO₂, particularly during periods of high activity or overcrowding.
2. **Alarm Pheromones (Chemical Gases)**:
   * Bees release alarm pheromones in response to perceived threats. While not typically "gases" in the traditional sense, these volatile chemicals can signal danger or a need to relocate.
   * One such chemical is **isopentyl acetate**, which has a strong smell and signals the colony to become defensive. If such signals are persistent, they can contribute to the bees deciding to leave the hive.

**Other Factors:**

* **Poor air quality**: Accumulation of various gases and volatile compounds inside the hive, especially during warm periods or if the hive is overcrowded, can cause bees to become uncomfortable.
* **Heat**: Excessive heat within the hive, combined with higher levels of CO₂ and other gases, can stress bees, potentially contributing to their decision to abscond.

Proper ventilation and hive management are key to preventing an unfavorable environment that might lead to hive migration.