

Honeybees in East Texas

At the March 21, 2026, meeting of the Tyler County Forest Landowner Association, Dr. Garrett Slater spoke about honeybees. Slater is Assistant Professor and Entomologist for Texas A&M AgriLife Extension Apiary Program.

Commercial honeybees in the U.S. are transported by truck in a vast migratory cycle between North Dakota, Texas, and California. Bees spend summers in North Dakota for high-volume nectar foraging, move to Texas in the fall to colonize, and relocate to California by January for almond pollination.

A typical honeybee colony contains 40,000 – 60,000 bees, and it is estimated that there are a million colonies of honeybees in East Texas every year. While the commercial colonies are in Texas, the colony populations increase. When the population of the hive exceeds capacity, a new queen emerges. The old queen flies out with a group of workers and seeks a new permanent home. The swarm must reach 100% agreement on the new location. Thomas D. Seeley's book Honeybee Democracy (2010) details how honeybee colonies make collective, democratic decisions.

A colony of bees consists of three kinds of bees: queen, drones and workers. The honeybee queen is the only sexually mature female in the hive, and all the female worker bees and male drones are her offspring. The queen reigns 1 – 4 years. Unlike the worker bees who can sting only once, the queen can sting multiple times. Drones mate once and then die.

Worker bees' responsibilities change as they mature. They start as housekeepers in the hive and gradually advance to traveling outside the hive to serve as guards and foragers. Guard bees are stationed at the colony's entrance and are the most aggressive. They emit pheromones to signal alarms and stinging attacks. The honeybee venom is typically most allergic at the end of the day when the bee's melittin protein is highest. Smoke is used to mask pheromones so the bees cannot communicate. When attacking, bees target dark areas. It is advisable to wear light cloths and, if attacked, cover your face to protect eyes and ears.

Foragers scout up to three miles away. Once they find a source of nectar, they return to the hive and perform a waggle dance on the "dance floor" in the hive. Their dance indicates the direction, distance and quality of source.

When applying pesticides, tree farmers are encouraged to notify beekeepers in the area so they can take action to protect their hives.

The Texas Apiary Inspection Service (TAIS) is the sole agency responsible for regulating the apiary industry in Texas. Access <https://txbeeinspection.tamu.edu/> for more information.

For more information about bee keeping, access AgriLife Extension's Texas Master Beekeeper Program at <https://masterbeekeeper.tamu.edu/>