

Honey Bee Breeding

Honey Bee Breeding for Production and Varroa Resistance

TEXAS A&M
AGRI LIFE

RESEARCH AND EXTENSION
CENTER AT OVERTON



Making advances to help maintain stronger colonies

Honey bee breeding is essential for improving colony health, productivity, and resilience against pests and diseases. By selectively breeding bees with desirable traits—such as hygienic behavior, gentleness, and Varroa resistance—both commercial and small-scale beekeepers can maintain stronger colonies. We will rely on instrumental insemination to control genetics breed bees for beekeepers across Texas.

We are also researching Drone Congregation Areas (DCAs), which are key to improving closed mating systems. These areas, where drones gather to mate with queens in flight, can be managed by introducing high-quality drones from selected breeder colonies. By saturating DCAs with drones carrying beneficial traits and genetics, beekeepers can enhance genetic consistency even in open-mated queens.

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BIO

Garrett Slater has over 25 years of beekeeping experience. He earned his BS and MS from NDSU, followed by his PhD from Purdue University. He was then a postdoctoral fellowship with USDA-ARS at the Honey Bee Breeding Lab in Baton Rouge. In 2024, he joined Texas A&M University as the state's Apiculture Extension Specialist. His work now focuses on helping beekeepers select and breed better bees for Texas, while also providing education to beekeepers statewide.



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