



BEEKEEPING BASICS - PESTS AND DISEASES

Africanised honey bees

Africanised honey bees (*Apis mellifera scutellata*), otherwise known as ‘killer bees,’ are a subspecies of the traditional European honey bee. The result of breeding African honey bees with more docile European varieties, these bees have earned notoriety for their extreme behaviour and highly aggressive response to perceived threats. In many cases, this may simply be a person or an animal that comes too close to a hive without realising it.

The story of the killer bee began in a South American laboratory. Scientists were attempting to cross-breed African bees with the less weather-resistant European variety to help create a bee more capable of withstanding the tropical weather and creating higher honey yields.

The breeding program certainly succeeded in breeding a stronger bee! However, the experiment also unleashed a potentially dangerous pest to beekeepers, traditional hives and the general public as well. Several swarms escaped their South American quarantine in the late 1950s. Since then, they’ve migrated north through Central America and into the southern United States.

Identification

Identifying the presence of Africanised honey bees near a colony or apiary may prove a challenge due to their similarities with European bees.

Africanised bees:

- look the same as European honey bees
- have the same venom and can only sting once

- pollinate flowers and produce honey like normal bees
- also defend their hives from perceived threats.

This last point is probably where the true distinction becomes clear. Africanised bees are considerably less predictable than European bees. They are also much more defensive and aggressively territorial. In many cases this has led to people and animals being severely injured or even killed.

The highest risk of killer bees to apiaries is when a swarm takes over a European colony. Their aggression often leads to a full takeover of a hive. In severe cases, they can devastate an entire set of colonies and significantly impact a beekeeper's ability to harvest.



Symptoms

When a displaced killer bee colony attacks, the primary symptom is the total devastation of a European colony. Africanised bees will often exploit weaker hives where several empty combs are present. Over time, they can continue expanding to additional colonies throughout an apiary.



How they spread

As mentioned, the original outbreak of Africanised honey bees occurred when several colonies escaped from quarantine in South America in the 1950s. They have spread up to North America since then, despite efforts to stop them. While the spread has slowed down significantly, unchecked or unreported sightings in new areas may also contribute to further spread into the United States and the rest of North America.



Eradication

It's important to maintain an ongoing reporting culture of Africanised bees to keep track of their current populations and potential expansion to further areas. Beekeepers who suspect killer bee infestation should immediately notify their nearest beekeeping association

or contact local pest control services to determine the next step. These professionals can help determine a responsible course of action to remove killer bee colonies and potentially salvage other hives.

More extreme populations may require additional intervention, including the full replacement of frames or the use of pesticides if all else fails.



Prevention

Maintaining strong hives with healthy bee populations and is the best method beekeepers can use to keep Africanised bees out. Just like European bees, killer bees are foragers. Accordingly, they prefer areas where there is less competition for pollen and other resources.

Killer bees are less likely to infiltrate or take over a European hive if the hive maintains overall strength and wellness. Simply keeping a happy and healthy set of colonies can help immensely in stopping the spread of these aggressive pests.

Beyond North and South American apiaries, preventing the ongoing spread of Africanised honey bees throughout the rest of the world is really important. While these bees still produce honey, their unpredictability and highly aggressive behaviour makes them unsuitable for apiary operations.

Multiple operations have been put in place to help slow the spread of killer bees further into North America. However, this spread should also be a signal for continued reporting of Africanised bee presence and responsible hive management by beekeepers.



Detecting Africanised honey bees in your colony

Identifying occasional Africanised bees in or near a colony often proves impossible due to the physical similarities they have with their European counterparts. However, beekeepers can typically identify the presence of killer bees using the following characteristics ...

HIGHLY AGGRESSIVE HIVE DEFENSE

Research has shown that an Africanised colony guards the nest with up to five times more bees than European hives. As a result, their hive defense is visibly more aggressive and direct than many beekeepers are used to seeing. Even just a presence near a hive can signal an alarm across the hive and cause defensive behaviour. If aggression

noticeably increased, it may be a sign a hive has been infiltrated.

EXTREME ATTACKS

As mentioned, hive defense by killer bees is often characterised by more bees attacking keepers when near the colony.

BEEES THAT PURSUE FOR LONGER DISTANCES/PERIODS

Agitated Africanised bees will typically pursue beekeepers or other perceived threats for much longer time periods and distances. In some cases, these bees have been known to pursue people up to 400 metres (1/4 mile) from their hives! While this extreme distance chasing is fairly uncommon, the bees will almost always remain agitated for longer periods of time than other species.

SOURCES

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BANNER PHOTOS ON PAGE 1

1. An Africanised honey bee
2. Africanised honey bees on honeycomb. PHOTO: Jonathan Wilkins
3. An Africanized honey bee (left) and a European honey bee on honeycomb. Despite color differences between these two bees, normally they can't be identified by eye. PHOTO: Scott Bauer, USDA Agricultural Research Service, Bugwood.org