

BEEKEEPERS ARE THE BEST LINE OF DEFENSE AGAINST AFRICANIZED BEES

It is important to remember that the beekeeper's livelihood is dependent on working with gentle and productive honeybees. Therefore, it is in the best interest of the beekeeper to maintain bees that can be worked profitably and with the least amount of disturbance to themselves and the public.

The public can play a crucial role by realizing that honeybees are vital insects. Bees are the primary pollinating insects in North America. The value of insect pollination of crops, mostly by honeybees, exceeds \$10 billion annually. Approximately 200 crops are dependant upon or benefit from honeybee pollination. Some South Dakota crops that benefit from honeybee pollination include, alfalfa, buckwheat, canola, legumes, sunflower (pollination directly affects about 25% of the total sunflower yield), safflowers, soybeans, and many fruits and vegetables. Honeybees also help propagate wildflowers and ornamentals, and support wildlife populations by pollinating many plants that provide food and shelter.

It is important to remember that we need our honeybees and we need to correct the misinformation that exists about the Africanized honeybee so that the beekeeping industry can continue its important job of providing pollination services and producing honey for the public. If you see bees on flowers, or see beehives in a pasture, realize that the beekeeper that owns those bees is doing you a sweet service. Let the bees do their job.

To minimize adverse reactions among the general public, it is extremely important to educate children and adults about the honeybee.

THE FUTURE OF BEEKEEPING

The Brazilian bee industry has recovered remarkably from the initial depression caused by the establishment of the Africanized honeybee. Today southern Brazil has more beekeepers, more managed colonies, and higher honey production than prior to the arrival of the Africanized honeybee.

Following an AHB invasion, a long-term solution must be considered involving intensive selection and hybridization to develop a docile or better hybrid honeybee. Hopefully, with good research, knowledgeable beekeepers and an informed public, the undesirable traits of the Africanized honeybee can be genetically altered.



FOR MORE INFORMATION, WRITE TO THE FOLLOWING ADDRESS:

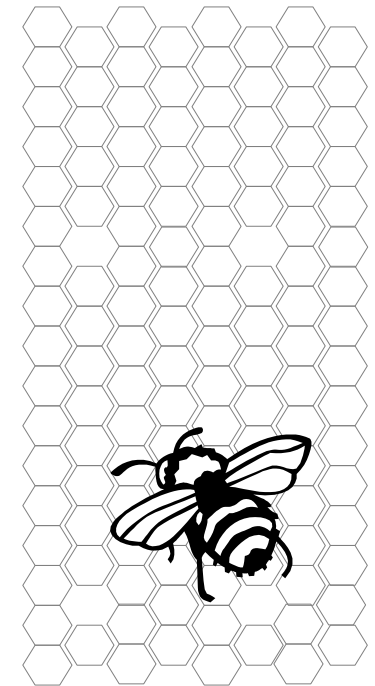
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AFRICANIZED HONEYBEES



Division of Resource
Conservation and
Forestry

AFRICANIZED HONEY BEES

BEEKEEPING IN SOUTH DAKOTA

There are roughly 194 registered beekeepers in South Dakota. In 2010, there were approximately 265,000 colonies registered in the state. In 2010, South Dakota ranked third in the nation in total honey production, producing 15.6 million pounds of honey, worth approximately \$24.1 million.

Most commercial apiarists in the state are migratory, moving their colonies to Southern or Pacific states each winter for overwintering, honey production and commercial pollination. Typically, beekeepers going to southern states move a portion of their strongest colonies and depopulate the remainder to reduce transportation and feed costs. The bees multiply earlier in the warmer climates, which allow beekeepers to divide their colonies and to establish their original colony count intended for honey production in South Dakota.

Migratory operators who transport colonies to Pacific Coastal states primarily perform custom pollination. The beekeepers are paid on the basis of the number and strength of bee colonies. Depopulation of colonies by custom pollinators is not normal procedure, but rather those producers stimulate the growth of their colonies for the pollination circuit of almonds, apples, citrus, pears, etc. prior to returning to South Dakota.

While in southern or western states, South Dakota's bee colonies could suffer an infestation of Africanized honeybees. To ensure that South Dakota's beekeeping industry continues to prosper, the hives returning to South Dakota must contain only European honeybees. The South Dakota Department of Agriculture restricts the spread of Africanized honeybees through quarantines and certification. The guidelines allow operators to migrate into and out of Africanized honeybee infested areas only if their breeding stock is certified as European honeybees.

WHAT ARE AFRICANIZED AND EUROPEAN HONEYBEES?

Honeybees are not native to either North or South America, but were brought here by early settlers from Europe to provide pollination and honey. That is why we call bee colonies "European Honeybees." The European honeybees are well adapted to survive in cold temperate regions of North America, but have never adapted well to the tropics of South and Central America.

In 1957, Brazilian researchers imported honeybees from Africa to initiate a breeding program in the hope of improving honey production in the tropical lowlands of Brazil. Approximately 26 African queen bees were accidentally released from its breeding program in Sao Paulo, Brazil. Since their escape in 1957, the African honeybees proved highly adapted to the tropical conditions in Brazil. The resulting hybridized wild population quickly developed and spread through South America, Central America and Mexico, interbreeding with and displacing the resident European honeybees. We now call these bees "Africanized Honeybees" (AHB) to distinguish these hybrids from the bees native to Africa.

AFRICANIZED VS. EUROPEAN HONEYBEES

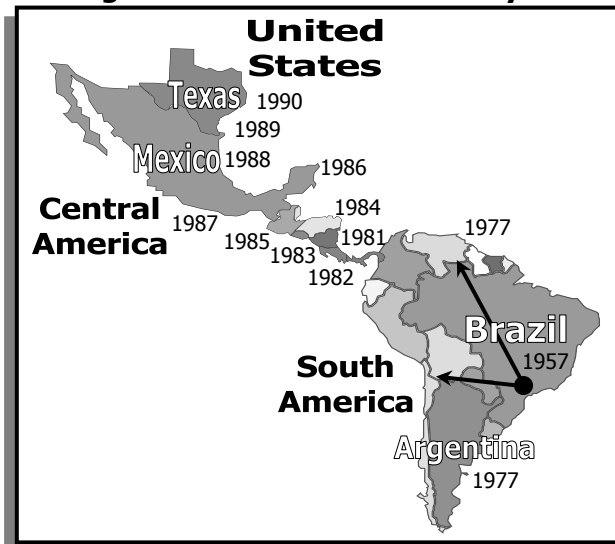
The differences that are most apparent involve the way Africanized bees behave as a colony. Unlike the European honeybee, the Africanized honeybee quickly becomes defensive, stings more readily, recruits a larger portion of the hive for defense, and will pursue intruders for longer distances. An Africanized honeybee rarely attacks unless provoked, and the venom from a single sting is no more potent than that of a European honeybee.

The defensive behavior became widely publicized in the media and led to the name "Killer Bees." The intensity of the attack, used only in defense, greatly contributes to the Africanized honeybee's survival. These traits are not beneficial to maximum honey and wax productions.

Africanized honeybee colonies are also known to abandon or abscond from their nests when threatened by starvation, predators, or other disturbances. European colonies, however, will starve in the hive instead of absconding. Africanized bees also swarm more often than European bees. Swarming occurs when half of the colony leaves with the old queen to find a new nesting site and the remaining half rears a new queen. Swarming is a natural mechanism that bee colonies use to reproduce. Extensive swarming reduces a colony's ability to produce honey.

Another important difference is the Africanized honeybee's lack of adaptation for northern winters. European bees are accustomed to storing large amounts of honey necessary to sustain themselves during long winter months. Africanized bees, coming from the tropics, are not. No one knows how far north the Africanized bee will spread; however, it is unlikely that they will be able to survive winters in South Dakota.

Migration of Africanized Honeybees



← Africanized honeybees have expanded their range northward and southward since 1957. The rate at which they spread is influenced by many factors including weather.