



Africanized Honey Bees


Africanized Honey Bees




OK, OK. "ALLEYBOY" KILLED ONE.

Texas Master Beekeeper Program
Advanced Level





Middle East and Africa is the original native range of *A. Mellifera*



European Bee African Bee





Photo: UF

Where is the Africanized bee?



Africanized Honey Bees

How did the African bee get to the U.S?



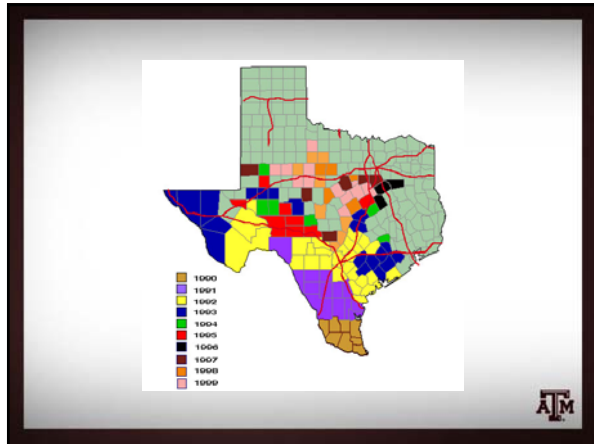
Escape

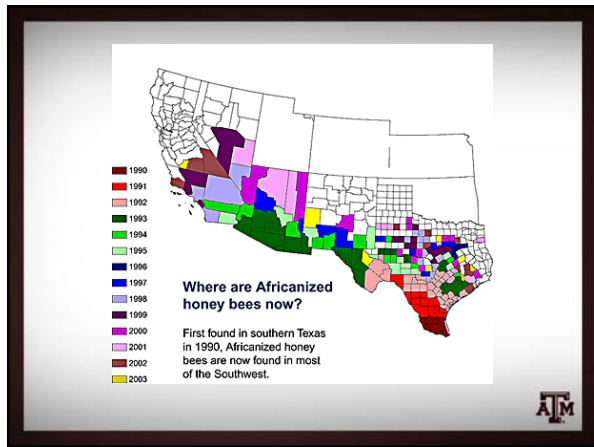


"...perhaps the most remarkable biological event of the century."
-Tom Rinderer



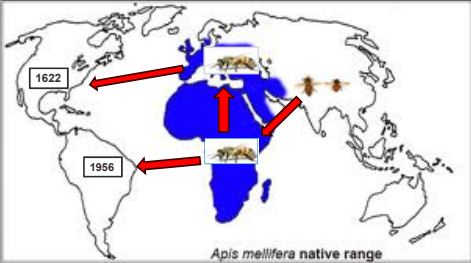
Africanized Honey Bees







Africanized Honey Bees




1622

1956

Apis mellifera native range


Better Adapted




Drivers of Success



Reproductive Swarming



- EHB colony swarms every 1-2 years
- AHB colony swarms 4-12X a year
- Growth rate 16 fold annually (Winston-87)
- Makes swarm management very important



Africanized Honey Bees

Drone Production



- AHB colonies produce drones earlier than EHB colonies
- AHB colonies produce proportional more drones than EHB
- AHB colonies saturate DCAs



Abscinding



- Entire colony leaves
- Rate 15%-30% a year
- Travels long distances-160km
- Engine behind rapid colonization of an area
- Resource-induced and disturbance-induced absconding



AHB Genes Dominant



Shorter Queen Developmental Time



	European honey bees	African honey bees
Queen	16	14
Worker	21	19-20
Drone	24	24



Usurpation



AHB queen always with a small group of workers



More Defensive



What does all this mean?



2 month old AHB Aerial Nest



Likely To See More Open Air Nests



Africanized Honey Bees

Meter and Valve Boxes

EHB almost never nest underground




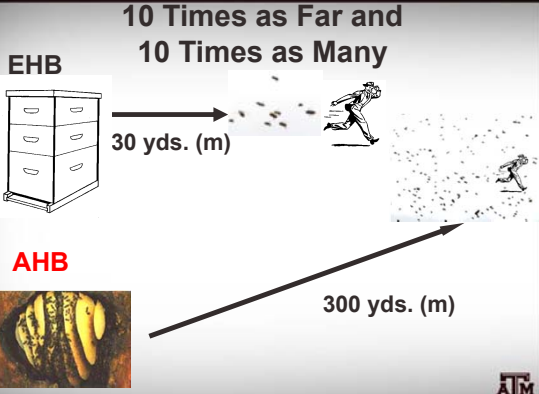
- Average cavity volume occupied by EHB is 40L
- Average cavity volume occupied by AHB is 22L
- Have been known to occupy less than 1L



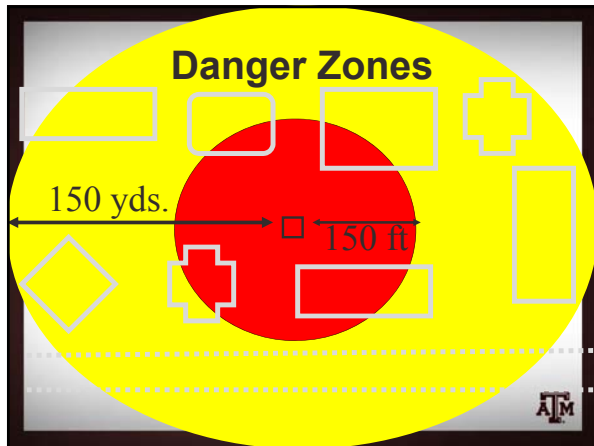
AHB are More Intensely Defensive

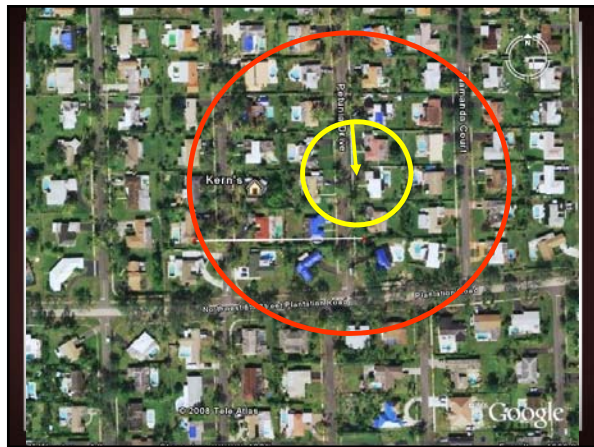


10 Times as Far and 10 Times as Many



Africanized Honey Bees





Problems Caused by AHB

- Competition with managed colonies.
- Usurpation of EHB colonies.
- Hybridization of EHB queens by AHB drones.
- Public fear of "Killer Bees" causes decrease in bee yard locations and willingness for pollination services.

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Problems with Managing Africanized Honey Bees

- AHB can be intensely defensive of the colony.
- AHB swarm excessively.
- AHB abscond if frequently disturbed.
- AHB should not be placed on pallets – hives need to be spaced at least 6-8 feet apart.



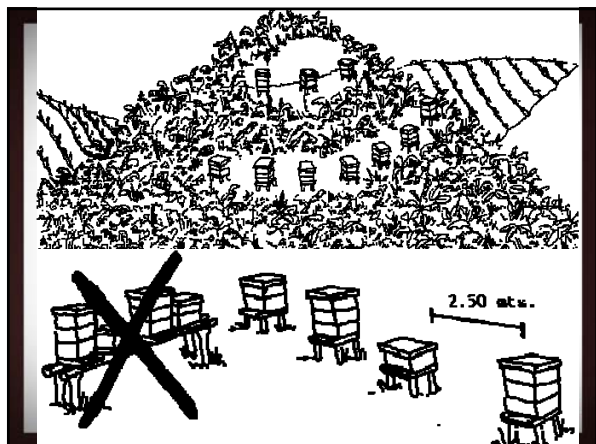
Bee suits with zippered veil and bee gloves are the best protection



Ventilated Suit



Africanized Honey Bees







Africanized Honey Bees

Hive Manipulation Implications

- Always smoke - once AP is out
- Have cover available
- Keep keys in your car
- 30 min. before night
- Ventilated suit
- Have your phone with you



Advantages to Keeping Africanized Honey Bees

- Reduced impact from Varroa mite and Small Hive Beetle.
- Strong foragers – good pollinators.
- But some colonies are poor honey producers, so yields may be reduced.
- They have added much needed gene diversity to the population pool

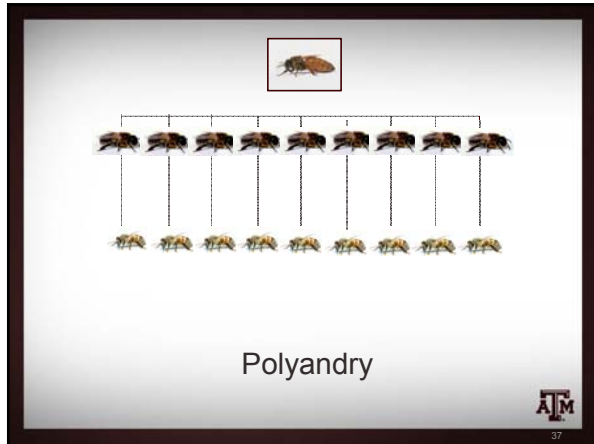


Management Implications

Recommended:
Buy a marked and mated queen to control genetics




Africanized Honey Bees



Management Implications

If you see an unmarked queen- requeen asap

- Larger colonies are more defensive
- Large colony less likely to accept a new queen
- Africanized colonies are more likely to reject an introduced queen.



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My Apiary 2013

USDA
United States Department of Agriculture
United States of America
FEDERAL AGENCIES INVOLVED

Name: John Doe
Address: 123 Main St
Location: TX
Sample Date: 12/12/13
Sample Identification: 12345

Species with 60% Introgression of Africanized Genes: _____

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Africanized Honey Bees

How Much of the U.S. Will They Colonize?



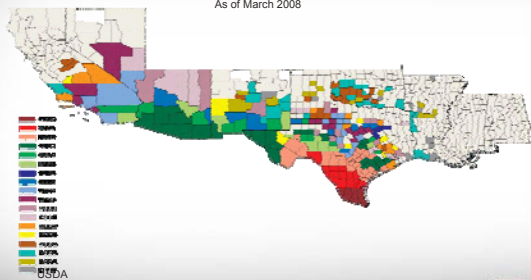
Future Range



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Southern Distribution

As of March 2008



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Africanized Honey Bees

Africanization-What can you do?

- Buy only marked Queens
- Requeen as soon as your queen is superseded/swarmed
- Keep your colonies a safe distance from neighbors and pets
- Make any possible AHB hive area bee tight
- Always use smoke and be well covered



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Questions?

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