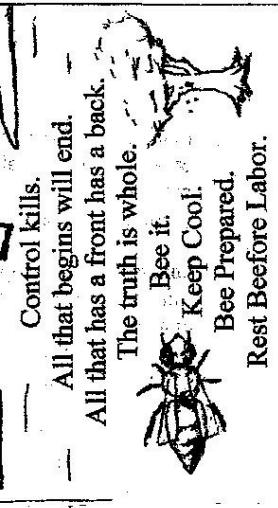


ANARCHY APARIES ALMANAC 2012

Beekeping Survival Guide



All that begins will end.
All that has a front has a back.
The truth is whole.
Bee it.
Keep Cool.
Bee Prepared.
Rest Beefore Labor.

Control kills.
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Healing Sick Bees - Prevention is key. Whether dispersed or parasite, make sure the bees are well nourished, not stressed. Replace old combs and infected brood with fresh naturally drawn wax. The queen raising process also cleanses the brood nest. Join a bee club + throw a party if it works.

Keep it simple and promote diversity. Bees need 4 things: clean air, clean water, clean food, clean home (D. Lusby). Pests and diseases are symptoms of an out-of-balance system. Faith in nature's resilience is too easily displaced by fear + quick phony controls. Some hives die, but "The more they die, the more they live." C M Simon, Backwards Beekeeper

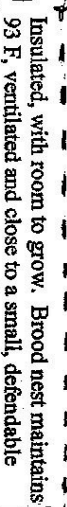
Give bees a chance. They don't need to be "saved." They are not going to save you but they might teach you grace. Bees and all living things bring peace, awareness, and appreciation of a wild world.

Swarm the State! - www.anarchyapiaries.org

Queenraising - The queenless side makes a queen by feeding royal jelly to a newly hatched larvae. In 3 weeks, eggs will be laid by the new queen. A fragile, risky, dramatic process, so don't bother them.

Splitting - Give the gift of bees! 3 methods: 1) Try to catch the swarm. Bellies are full of nectar, unlikely to sting. Cut or shake the branch into a box. If in high flight, use a bucket fastened to a string. The wool will fall in + leave the lid cracked. 2) Jiffy. Move to a new spot right away (after / try again). Shake, smoke, or drum a cluster with thin sticks. Shake, smoke, or drum a cluster with thin sticks. Shake, smoke, or drum a cluster with thin sticks. Shake, smoke, or drum a cluster with thin sticks.

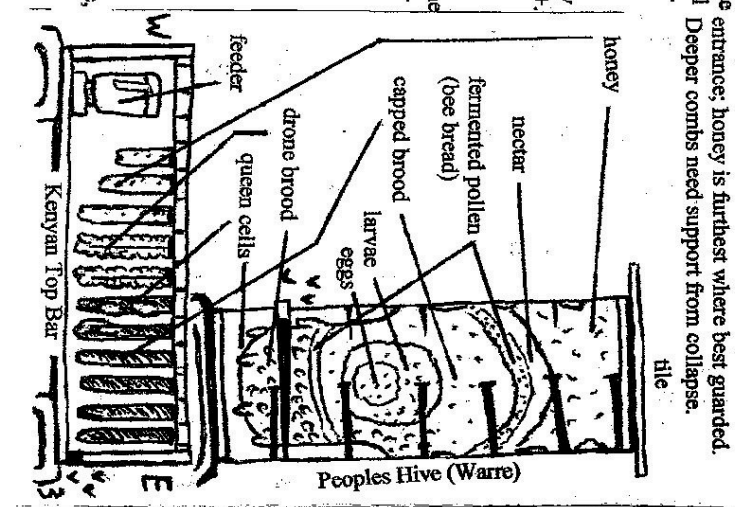
Apis mellifera Biology



Queen - matriarch. Abdomen 2x length of a worker bee's. Egg to larvae entrance; honey is furthest where best guarded. Jelly diet. Day 1 - destroys any other queen. Day 7 - goes on mating flight, mates with 20+ drones, returns. Peak of season, lays 2000+ eggs/day. Dominant in winter. 2nd Year - swarms or is superseded by daughter queen. Eventually lays only unfertilized eggs (drones). Avg. life span 2-3 years.

The Worker - infertile female. 90% of the hive. Egg → emerging adult ~ 21 days. Day 1-3 - Cleaner. Day 4-6 - Feeder. Day 6-7 - In the Q's entourage. Day 7 - 12 - Wax building. Day 14 - Guard duty. Day 15 on - Nectar / pollen / water / resin gatherer; evaporator; scout + waggle dancer (imparts storage sites). Lays drone eggs when no Q present. Avg. life span 5-6 weeks, longer in winter.

Drones - the boys. 10-15%. Egg → emerging adult ~ 23 days. Larger, domed brood cap. Day 0 - Larvae draws parasites + disease away from worker brood + is culled by hygienic behavior. Day 10+ - Flies to congregation area to possibly mate. Large, helmet eyes to spot a virgin queen. End of season - pushed out of the hive, starves. Avg. life span 4 - 5 weeks.



Insulated, with room to grow. Brood nest maintains 93 F, ventilated and close to a small, defensible entrance; honey is furthest where best guarded. Deeper combs need support from collapse.

Select Hive types - Skep - Straw or wicker basket, coated in mud or sheltered. A simple, proven hive for bees. Like the gum (hollow log), cannot be inspected or harvested w/o severe damage. Illegal in 48 states. Kenyan top bar - A trough with bars as the roof. The bees construct a comb on each bar (1.25" wide). Easily inspectable, no heavy lifting, calm bees, not much, if any, cost to build. Fast nectar flows can cause early swarming + erratic comb construction, abated by placing empty bars by the brood area, spitting, etc. Bee there!

Langstroth Frame Hive The modern beekeeping monopoly. Queen manipulations + saving of old, toxified, artificial combs may be the causes of a century of bee epidemics. Expensive parts + mashed bees. Spinning honey combs enable commercial harvests; blame capitalism, not the box.

Common Hive / Warre "People's" Hive - Do Nothing Beekeeping: a skinny vertical hive like a hollow tree. Difficult (not impossible) to inspect. Springtime visit: cut off top box of honey with knife or wire, add empty boxes underneath or split in half for increase. Bees work down; support sticks prevent collapse. Swarming advocated and applauded. (Your hive design here)

Ideal bee yard - MAX sun, protected from wind, out of the way, permanent. 6+ hives approaches self-sufficiency. 12 exceed natural saturation rates. 18 might be too many for available nectar, but maybe not. If needed, provide a constant water source.

Moving hives - Must go 3 miles, at night when every bee is home. If too close, the old bees will drift back in BEAR areas, strap hives down to pallets. Keep many bee yards. "Kent" honey ~ 2 pounds per hive. Installing a package - Swarms come in a screen box with a caged queen. Pry off the lid while holding the Q cage. Check that she is alive + the candy is accessible. Place the Q cage in the hive, pour the swarms in or place the open box inside, and cover. Feed them - honeycombs or 2 gal. sugar syrup (1/1 by vol.). Check in a week for comb building or eggs.

Feeder - a bucket or jar with holes in the lid, flipped over inside or on top of a feeder hole. Bees forage on millions of blooms in a 6+ miles radius, but mostly within 1.5 miles. Plant sweet clover; limit lawn moving. Avoid corn, soy, and many other crops.

Year 2: After winter, a hive will grow prosperous, fill its cavity with nectar, pollen, + brood, to swarm by mid/late spring. On a sunny midday, the old queen + half the bees will whirlwind out of the hive, land on a branch, etc., en route to a protected cavity. Hanging a bait hive might lure in a passing swarm

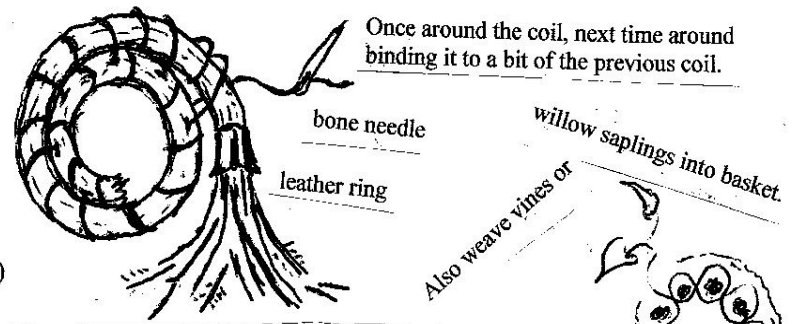
Timeline of Beekeeping History

- 120-150 million years ago- insects socialize, bees evolve from wasps, plants produce nectar
- 15,000 BC- humans depict bees and honeycomb in African caves
- 5,000 BC – evidence of domestic beekeeping in Ancient Sumer
- 3100 BC – Bee hieroglyphs and hive migration in Egypt
- 350 BC – Aristotle observes divisions of labor + falsely notes a “King” Bee, hive inspections
- 1500s – hives brought to South and Central America, and likely FL, by the Spanish
- 1586 – queen sited as the female egg layer, L M de Torres (Spain)
- 1609 – *The Feminine Monarchie* Charles Butler (UK) declares a queen bee
- 1622 – successful import of hives from UK to Jamestown, VA
- 1682 – George Wheler (UK) sees movable top bar hives in Greece
- 1789 – Francis Huber’s observes his Leaf Hive by using beespace
- 1838 – Johann Dzierzon (Poland) invents a movable comb hive, describes mating
- 1852 – LL Langstroth patents frame hive.
Commercial beekeeping born.
- 1857 - wax foundation invented by Johannes Mehring (Germany)
- 1868-9 – mysterious bee losses reported in KY, TN
- 1877 – A. I. Root makes large cell foundation hypothesizing larger bees will make more honey
- 1888 – G. M. Doolittle grafting larvae in *Scientific Queen Rearing*
- 1891 – “May Disease” coined to describe disappearing bees
- 1896 – “Disappearing Disease” coined
- 1905 – 1919 – “Isle of Wight” Disease, unknown cause, 90% loss 3 times in the UK, prompts the 1922 federal ban on bee imports to the US
- 1922 – hives with fixed combs outlawed in NY and other states, inspection mandated
- 1926 – first artificial insemination of a queen bee
- 1948 – Abbe Warre (France) People’s Hive in *Beekeeping for All*
- 1953 - Karl von Frisch describes the bee dance language
- 1970s – plastic comb foundation; corn syrup becomes major feed supplement; the US Peace Corps popularizes Kenyan top bar hives abroad
- 1975 – “Disappearing Disease” observed in 27 states and Mexico
- 1976 – Bee die offs in ID from Penncap M pesticide in pollen
- 1984 – Tracheal mites discovered on FL bees, losses
- 1987 – Varroa mites discovered in FL, losses
- 1994 – Imidicloprid, a systemic pesticide, released in the US
- 1995-6 – mystery bee deaths in PA and ND
- 1999– Imidacloprid banned in France after bee deaths on sunflowers
- 2003 – Clothianidin, a systemic pesticide, released in the US
- 2003 – Lawsuit- ND Beekeepers vs Bayer for ‘90s bee deaths after sunflower bloom. Dismissed in 2008.
- 2004 – US border opened to Australian package bee imports to aid CA almond pollination.
- 2006 - Bee genome decoded, Baylor College of Medicine, TX
- 2007 – Collony Collapse Disorder (CCD) coined and anecdotally linked to new pesticides
- 2008 – systemic pesticides banned in Italy, Germany, Slovenia. In US, NRDC sues EPA for withholding testing yet allowing release. No further action so far.
- 2010 – Beelogs produces the first RNAi medicine, which alters immune response, to combat IAP Virus.
- 2011 - Beelogs is bought by Monsanto Corp.

for more see Dennis vanEngelsdorp, and *The World History of Beekeeping and Honey Hunting* Eva Crane

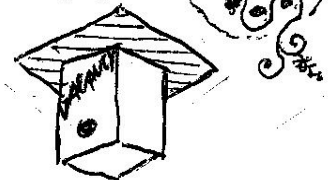
How to make a skep

Anyone can make a skep! A hollow straw like rye works well. Shove straw through a ring to maintain size while wrapping it with cordage or split cane.



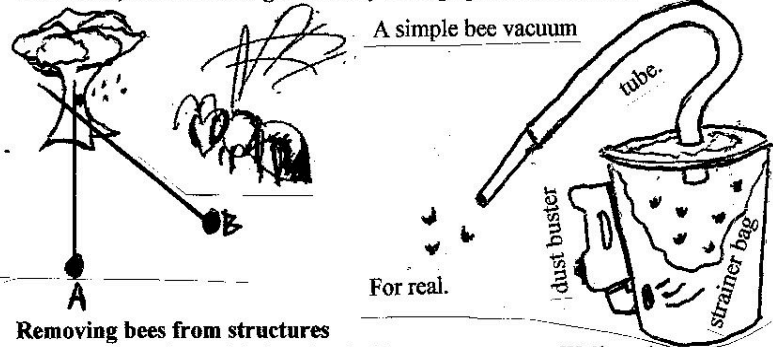
Coat with clay, mud, + straw mixture, or cow dung to protect.

A swarm in May is worth a load of hay.
A swarm in June is worth a silver spoon.
A swarm in July isn't worth a fly.



Bait Hive: An empty box may attract a passing swarm. Tom Seeley (Cornell) says that bees like: 10 gallon cavity, securely 10+ feet up, visible but well protected, south facing bottom entrance 1.5” wide, old comb / propolis present, a hundred yards+ from swarming hives. “Vacancy” sign. Lemongrass oil (citrol)- helps scout bees find it. It’s like fishing.

Beelining – Set up one or more feeding stations with honey and lit beeswax candles. Note direction of bees’ homeward flight, or capture and feed each bee until full, then dust with flour or powdered sugar to slow flight and make more visible upon release. Draw direction home from each station on a map, and find intersecting flight lines to locate the hive. Rather than chopping trees down, it is easiest to gain bees by setting up bait hives 100 yards away.



Removing bees from structures

Best done in spring, with time for the hive to recuperate. Walls and obstructions must be removed to expose the comb. Too much smoke will make the queen run, but cool, deliberate work makes for calm bees. Honey goes to a bucket and is fed back later, nectar goes to eating and mead, the brood is tied or banded onto bars or frames, the bees are scooped or vacuumed and put in the box, the box left in place until dark. Hopefully the queen is spotted, protected, and draws the other bees to her. If the bees run to another cavity, close up the wall and allow the bees to recluster in the original spot, then remove again the next day. Seal repairs really well.

Propolis – anti-microbial, anti-viral, anti-fungal, propolis resins coat the hive + sterilize it. Tincture in pure grain alcohol 3 weeks, strain with a coffee filter. Throat spray, toothpaste, varnish, or powdered in capsules.

Making Mead – Dirt sinks, bugs float, alcohol kills everything. 3 lbs (1 quart) honey per gallon of warm water, add a dry yeast (champagne, cuvee, or bread yeast). Wild yeast or fruit yeasts work, but might make delicious honey vinegar instead. Seal to let CO2 out but no fruit flies in. NO metal. Store in a warm, dark place, 5 weeks to 6 years. Enjoy ancient alchemy.

Bee venom therapy - Stings are the best part of keeping bees. If you don't get stung the honey doesn't taste as sweet. Remove stingers immediately, unless in medicinal practice. Acupuncture points, joint problems, aches and strains, MS, arthritis, certain diseases, plasma, focus. Plantain and burdock leaf, food and rest, aid in sting relief.

MEAD